

STCC LIBRARY



3 8132 0002 7389 3

SPRINGFIELD

TECHNICAL



COMMUNITY
COLLEGE

CONNELL



1981-82 CATALOG

TABLE OF CONTENTS

GENERAL INFORMATION	5
HEALTH/HUMAN SERVICES.....	29
BUSINESS ADMINISTRATION PROGRAMS.....	54
LIBERAL ARTS AND SCIENCES.....	77
ENGINEERING TECHNOLOGIES.....	87
ENGINEERING AND SCIENCE TRANSFER.....	127
HUMANITIES.....	132
SOCIAL SCIENCES.....	138
MATH AND NATURAL SCIENCES.....	142
GENERAL INDEX.....	154

Springfield Technical Community College is an institution of higher education, fully accredited by the New England Association of Schools and Colleges.



NEW ENGLAND
ASSOCIATION
OF SCHOOLS
AND COLLEGES
ACCREDITED MEMBER

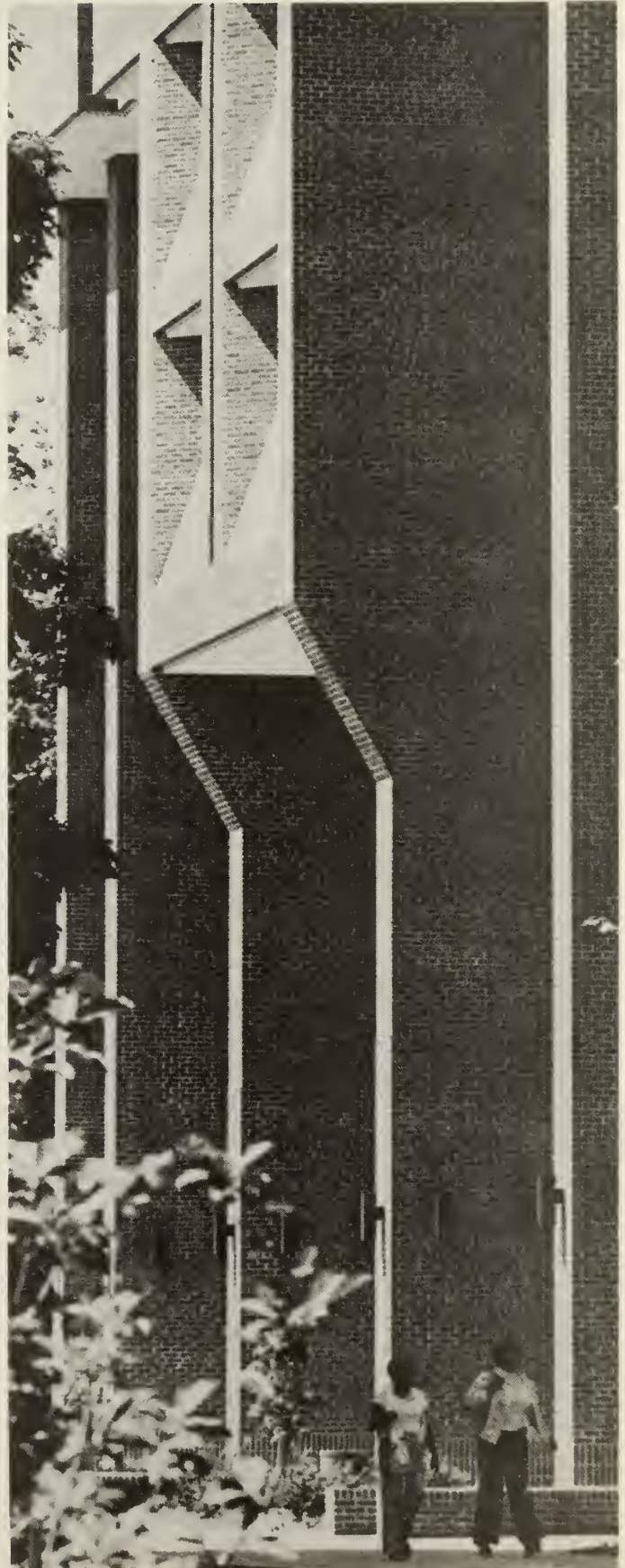
S.T.C.C., an Affirmative Action/Equal Opportunity Employer, also complies with all regulations against discrimination on the basis of sex or handicap status in its educational programs, services, and employment practices, as mandated by Title IX of the Education Amendments of 1972 and section 504 of the Rehabilitation Act of 1973. All questions should be directed to the AA/EEO Officer of the College, One Armory Square, 781-7822

This catalog is published as a convenient source of information for prospective students and for the general public. To allow for unforeseen developments that may occur along budgetary or other lines, the College reserves the right to add or delete courses and programs or to revise tuition fees and insurance requirements described herein.

DESIDERATA

Go placidly amid the noise and haste, and remember what peace there may be in silence. As far as possible without surrender be on good terms with all persons. Speak your truth quietly and clearly; and listen to others, even the dull and ignorant; they too have their story. Avoid loud and aggressive persons, they are vexations to the spirit. If you compare yourself with others, you may become vain and bitter; for always there will be greater and lesser persons than yourself. Enjoy your achievements as well as your plans. Keep interested in your own career, however humble; it is a real possession in the changing fortunes of time. Exercise caution in your business affairs; for the world is full of trickery. But let this not blind you to what virtue there is; many persons strive for high ideals; and everywhere life is full of heroism. Be yourself. Especially, do not feign affection. Neither be cynical about love; for in the face of all aridity and disenchantment it is perennial as the grass. Take kindly the counsel of the years, gracefully surrendering the things of youth. Nurture strength of spirit to shield you in sudden misfortune. But do not distress yourself with imaginings. Many fears are born of fatigue and loneliness. Beyond a wholesome discipline, be gentle with yourself. You are a child of the universe, no less than the trees and the stars; you have a right to be here. And whether or not it is clear to you, no doubt the universe is unfolding as it should. Therefore be at peace with God, whatever you conceive Him to be, and whatever your labors and asperations, in the noisy confusion of life keep pace with your soul. With all its sham, drudgery and broken dreams, it is still a beautiful world. Be careful. Strive to be happy.

Found in Old Saint Paul's Church,
Baltimore; Dated 1692.



ACADEMIC CALENDAR — 1981

<u>WEEK</u>	<u>DATES</u>	<u>FALL SEMESTER 1981</u>
1	Sept. 7 - 11	<p>Mon., Sept. 7 Tues., Sept. 8</p> <p>Wed., Sept. 9</p> <p>Wed. - Fri. Sept. 9 - 11 Thurs., Sept. 10</p> <p>Labor Day - Holiday Faculty Meeting - 9:00 A.M. Freshmen Registration and Meetings With Advisors, 10:30 A.M. - 1:00 P.M. Senior Registration and Meetings With Advisors, 10:30 A.M. - 1:00 P.M. Add and Drop Week</p> <p>CLASSES BEGIN</p>
2	Sept. 14 - 18	
3	Sept. 21 - 25	
4	Sept. 28-Oct. 2	
5	Oct. 5 - 9	
6	Oct. 12 - 16	Mon., Oct. 12
7	Oct. 19 - 23	Wed., Oct. 21
8	Oct. 26 - 30	Tues., Oct. 27
9	Nov. 2 - 6	<p>Mon., Nov. 2 Tues.-Thurs. Nov. 3 - 5 Wed., Nov. 11</p> <p>Columbus Day - No Classes Distribution of Phase I Spring Registration Booklet Mid-Semester Grades Due In Registrar's Office Distribution of Mid-Semester Grades Spring Registration - Phase I, All Students Meet With Faculty Advisors Veterans' Day - No Classes</p>
10	Nov. 9 - 13	
11	Nov. 16 - 20	
12	Nov. 23 - 27	<p>Thurs. - Fri. Nov. 26 - 27</p> <p>Thanksgiving Recess - No Classes</p>
13	Nov. 30-Dec. 4	<p>Mon., Nov. 30</p> <p>Distribution of Phase II Registration Materials to Advisors Registration - Phase II, Students Meet With Faculty Advisors to Pick Up Schedules and Make Any Necessary Changes Distribution of Final Student Schedules for Spring Registration Last Day to Drop a Course Without Penalty (End of 14th Week)</p>
		Tues. - Wed. Dec. 1 - 2
14	Dec. 7 - 11	<p>Wed., Dec. 9</p> <p>Fri., Dec. 11</p> <p>Last Day of Classes</p>
15	Dec. 14 - 18	<p>Thurs., Dec. 17 Fri., Dec. 18</p> <p>Final Exams Begin</p>
16	Dec. 21 - 25	<p>Mon. - Wed. Dec. 21 - 23</p> <p>Final Exams</p>
	Dec. 28	Final Grades Due In Registrar's Office
	Dec. 24 - Jan. 18	SEMESTER BREAK

ACADEMIC CALENDAR — 1981

WEEK

DATES

SPRING SEMESTER 1982

1	Jan 18 - 22	Mon., Jan 18 Tues., Jan 19 Wed., Jan. 20 Wed. - Fri Jan. 20 - 22	Faculty Meeting - 9:00 A.M. Freshmen Registration and Meetings With Advisors, 10:30 A.M. - 1:00 P.M. Senior Registration and Meetings With Advisors, 10:30 A.M. - 1:00 P.M. CLASSES BEGIN Add and Drop Week
2	Jan. 25 - 29		
3	Feb. 1 - 5		
4	Feb. 8 - 12		
5	Feb. 15 - 19	Mon., Feb. 15	Washington's Birthday - No Classes
6	Feb. 22 - 26		
7	Mar. 1 - 5		
8	Mar. 8 - 12	Wed., Mar. 10	Distribution of Phase I Fall Registration Booklet
9	Mar. 15 - 19	Wed., Mar. 17 Thurs., Mar 18	Evacuation Day - No Classes Mid-Semester Grades Due In Registrar's Office
	Mar. 22 - 26	Mon. - Fri. Mar. 22 - 26	Mid-Semester Break - No Classes
10	Mar. 29 - Apr. 2	Mon., Mar. 29 Tues. - Thurs. Mar. 30 - Apr. 1	Distribution of Mid-Semester Grades Fall Registration - Phase I, All Students Meet With Faculty Advisors
11	Apr. 5 - 9		
12	Apr. 12 - 16		
13	Apr. 19 - 23	Mon., Apr. 19 Tues., Apr. 20 Wed. - Thurs. Apr. 21 - 22	Patriots' Day - No Classes Distribution of Phase II Registration Materials to Advisors Registration-Phase II, Students Meet With Faculty Advisors to Pick Up Schedules and Make Any Necessary Changes
14	Apr. 26 - 30	Wed., Apr. 28 Fri., Apr. 30	Distribution of Final Schedules for Fall Registration Last Day to Drop A Course Without Penalty (End of 14th Week)
15	May 3 - 7		
16	May 10 - 14		
	May 17 - 21	Mon., May 17 Tues. - Fri. May 18 - 21	Last Day of Classes Final Exams
	May 24	Mon., May 24	Last Day of Final Exams
	May 26	Wed., May 26	Final Grades Due In Registrar's Office
	May 31	Mon., May 31	Memorial Day
	June 3	Thurs., June 3	Honors Convocation
	June 5	Sat., June 5	COMMENCEMENT

President's Message



Springfield Technical Community College has, since its beginnings, been an exciting, viable and relevant institution of higher education dedicated to the community college concept: an open-door policy to all citizens in the community. Since STCC is the only public technical community college in the Commonwealth, the primary thrust of the institution is a strong emphasis on programs in the areas of Allied Health, the Engineering Technologies and Natural Sciences, Computer Sciences, Business Administration, Secretarial Sciences and Word Processing. The college has a strong commitment to the liberal arts and offers programs in Liberal Arts, Visual Arts, and General Studies as well as insuring a balanced liberal arts content in its career programs.

The trained intelligence of men and women is vital to the health and development of any community. Students at Springfield Technical Community College are encouraged to seek courses of study which enable them to stretch their minds, to identify and perfect their capabilities and to employ these new capabilities positively within the community. To further this mission, our highly qualified faculty is dedicated to their students. Many of the faculty are scholars whose research has been recognized in their professions, but their first function at Springfield Technical Community College is to teach, thus much individual attention is given to students. Moreover, we sponsor numerous extracurricular activities and cultural events apart from formal academics, for we realize that learning and growth are found in a variety of experiences that occur in settings other than the classroom.

In the years that Springfield Technical Community College has been a creative and contributing force in the community, it has graduated men and women who have entered the world with the education and sense of responsibility, with the competence and maturity to help, each in his own way, to make this a better and healthier world. Whether their primary contributions have been made locally or in the wider community of man, their role has been constructive. Springfield Technical Community College is dedicated to making its contribution to society in the form of such men and women whose sense of responsibility to others is as high as their commitment to intellectual excellence.

Robert C. Geitz, President

THE COLLEGE

HISTORY

In 1947 the State Board of Education determined that the Commonwealth should establish a system of community colleges, and in 1958, the Massachusetts Board of Regional Community Colleges was created to oversee the master plan for the development of the community college system.

The concept of creating a postsecondary technical school in Springfield originated in 1964 when the City established Springfield Technical Institute.

In the fall of 1967, Springfield Technical Community College opened the historic gates of the vacated United States Armory and proceeded to establish itself as a leader in the community college system in the Commonwealth of Massachusetts. On March 1, 1981, the Massachusetts Board of Regents of Higher Education will assume responsibility for all of the Commonwealth's public institutions of higher education. The Springfield Technical Community College Board of Trustees will also assume its responsibilities on March 1, 1981 and, together with the Board of Regents, will be the governing body of the College, replacing the STCC Advisory Board and the Massachusetts Board of Regional Community Colleges.

An initial enrollment of 400 students and a faculty of 20 began what is now the largest and most comprehensive community college in the Commonwealth. The change from a city technical institute to a degree-granting community college resulted in STCC providing thousands of trained graduates for the career opportunities that exist in the Greater Springfield community.

The thirty-four acre campus contains a blend of the old and new. New academic facilities as well as historic buildings dating back to the American Revolution exist on this National Historic Landmark. New facilities for the Humanities, Physical Sciences, Nursing, Allied Health Sciences and Engineering Technologies exist within the historic fence cast in the mid-1800's from old cannons.

STCC is proud of its brief but impressive history, and the College will continue to dedicate itself to serving the educational and cultural needs of the citizens of the Greater Springfield community and the Commonwealth at large.

PHILOSOPHY

Springfield Technical Community College, founded in 1967, is a co-educational, publicly supported institution. After 13 years of growth and development, the College reaffirms its goal of combining education for a career with education for life. The College maintains an "open door" admissions policy, which gives access to higher education to a student body with diverse needs and goals.

We believe that it is the mission of the College to assist students in the choice of, and

General Information

preparation for, careers; to encourage performance to meet the highest professional standards; to provide opportunities for continuing education and professional enrichment. At the same time, we attempt to develop and foster an understanding of scholarship through the Liberal Arts.

Education for life is accomplished through efforts to develop in students the capacity for critical thinking, the ability to communicate effectively, an appreciation of the arts and humanities, and an understanding of the technological basis of modern society. The College recognizes the need for students to deal with the rapid pace of change and such global concerns as those related to technology, environment, population, and peace.

Springfield Technical Community College aims to assist in the development of people who are educated in mind, responsive to civic and social obligations, capable of adjusting to change, and able to respond creatively to the demands of their chosen careers.

GOALS

1. To provide access to higher education for all, with special attention to the needs of the economically and educationally disadvantaged. The College pays particular attention to those whose previous educational experiences have been unsatisfactory by providing a supportive learning environment which instills in our students renewed confidence in their capabilities.

2. To offer the educational programs necessary to meet the current and anticipated needs of our students, the community, and the Commonwealth. This may be accomplished through offering:

(a) A developmental program to upgrade student skills in mathematics, communications, and science to the college entry level.

(b) A two-year course of study which parallels the first two years of college study in liberal arts, engineering, and science for students who are interested and competent to carry their studies to the Bachelor's Degree.

(c) A degree program through Continuing Education with a variety of courses at convenient hours and location.

3. To maintain the highest possible standards of academic achievement and performance, consistent with the mission of the College.

4. To insure the continuing quality and relevance of our programs through alumni, employer, and other follow-up studies.

OBJECTIVES

1. To continue to serve this geographic region in terms of the educational needs of its people, as well as the educational needs of business, industry, and health services, government and the community at large.

2. To provide equal access to higher education by maintaining an open-door policy.

THE COLLEGE

3. To develop and maintain itself as a comprehensive, multi-purpose institution offering quality, low-cost, collegiate level courses and programs, with its major thrust in the career-oriented programs. This is accomplished by offering:

- (a) A broad range of technological, occupational, and general education courses for both credit and non-credit;
- (b) Extended education to students in those areas where programs beyond a two year duration are not readily available;
- (c) A program of continuing education, offering a variety of courses and degree granting programs at convenient hours and locations;
- (d) Ready access to the professional and physical resources of the College to representatives of business/industry and community organizations for the development and presentation of seminars, short courses, and conferences which meet the training and educational needs of these groups.

4. To provide to both regular and prospective students the testing, guidance, and counseling services of the College in such areas as:

- (a) choice of technical field of occupation;
- (b) choice of academic courses and programs;
- (c) occupational planning and placement;
- (d) transfer to other institutions of higher learning;
- (e) resolution of personal problems which tend to inhibit or interfere with the student's educational progress.

5. To commit the College to excellence in teaching as its most vital work by:

- (a) selecting faculty and staff members who bring both knowledge and a desire to work with community college students;
- (b) encouraging and assisting in the professional growth of faculty and staff members;
- (c) promoting innovation in educational practices and policies;
- (d) building and maintaining a modern physical plant;
- (e) providing an intellectual environment which will promote the development of social consciousness and maturity in students through academics, community involvement, and cultural events.

6. To provide educational and cultural services to the community and region.

7. To develop public interest and support for this institution through a public relations program involving the efforts of the College staff, the students, and the office of Public Relations.

8. To develop and maintain an on-going communication exchange with other educational institutions in the region, the state, and the nation. This includes high schools, community colleges and senior colleges, and various boards and agencies, both private and public.

9. To promote an educational dialogue among students, faculty, administrators, and governing and advisory boards in order to enhance

further the objectives of the College.

10. To undertake a periodic review of the College on a planned and systematic basis as to its objectives, policies, organizations, and long and short range plans. The purpose of such a review is to avoid rigidity and stagnation and to provide for change and progress in the curriculum.

11. To identify the employment needs of the community and to provide, as rapidly as possible, highly skilled people to meet these needs; also, in collaboration with business, political, and industrial leaders, to establish programs to attract new industries to the area by providing personnel and training for them.

12. To continue to implement the affirmative action plan of the College with the goal of increasing the representation of qualified minority, female, and handicapped persons as students and as members of the institution's faculty and staff at all levels.

ACCREDITATION

The college is a member of the American Association of Junior Colleges and of the New England Junior College Council. The President of the College has associate individual membership in the New England Association of Schools & Colleges, and the College has been fully accredited by N.E.A.S. & C.

The College is approved by the Board of Collegiate Authority, Massachusetts Department of Education; by the Massachusetts Rehabilitation Commission; by the United States Office of Education for listing in the Directory of Higher Education; for the National Defense Student Loan Program; for federal assistance from any unit of the Department of Health, Education, and Welfare; by the United States Veterans Administration for the admission of veterans and war orphans; by the United States Department of Justice as a place of study for non-immigrant students; and by the United States Internal Revenue Service as a non-profit organization. Individual programs in the Allied Health Sciences are accredited as follows: Dental Assisting, American Dental Association; Dental Hygiene, American Dental Association; Medical Laboratory Technician, American Medical Association, Committee on Allied Health Education and Accreditation; Nuclear Medicine, American Medical Association, Committee on Allied Health Education and Accreditation; Nursing, National League for Nursing, Mass. Board of Registration in Nursing; Physical Therapy Assistant, American Physical Therapy Association; Radiation Therapy, American Medical Association, Committee on Allied Health Education and Accreditation; Radiologic Technology, American Medical Association, Council on Medical Education; and Respiratory Therapy, American Medical Association, Committee on Allied Health Education and accreditation.

ADMISSIONS

ADMISSION

Springfield Technical Community College encourages applications without regard to age, sex, race, religion or national origin. Admission to the College requires a high school diploma or its equivalency. The Director of Admissions may determine in some cases that a mature, responsible adult may be admitted to the College without the diploma or its equivalency. This in no way guarantees such a student entrance into a specific academic program.

Every consideration will be given to any applicant who possesses a diploma without regard to the curriculum pursued in high school. The applicant should take note, however, of the numerous requirements demanded by specialized college programs (see Prerequisite page).

A high school equivalency diploma (General Education Development Test-GED) may be earned by passing tests administered by the College several times each year. Further information about the tests may be obtained from the Division of Continuing Education.

Students are advised to study carefully special requirements that are established by the program into which they seek admission.

Some programs of the College require specific minimum scores to be achieved by the applicant on the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. Admissions Telephone Number: 781-7822, Extension 3856.

RE-ADMISSION

Any student who has been dismissed for academic deficiencies may be re-admitted by bringing his cumulative quality point average (CQPA) up to the minimum standard required by the College (See Academic Standing). Any student who has attended summer or evening school and has raised his CQPA to the acceptable level, thereupon should reapply formally to the Director of Admissions.

APPLICATION PROCEDURE

Students desiring admission to the College may obtain an application by writing to the Director of Admissions, Springfield Technical Community College, One Armory Square, Springfield, MA 01105. Students attending high schools in the Greater Springfield Area may expedite the application process by asking their guidance department for an application form. Applications should be filled out completely and returned to the College as soon as possible. This application must be accompanied by a non-refundable application fee in the amount of \$10 (check or money order) payable to STCC. This is a required fee which goes directly into the General Fund of the Commonwealth. It is each applicant's responsibility to insure that a transcript of his high school marks is sent to the College. The Admissions Office cannot accept the responsibility for obtaining transcripts.

Springfield Technical Community College maintains an open-door admissions policy, but the rapidly increasing number of applicants necessitates early application for admission. Applicants should have their applications on file no later than January 31 for any given academic year. However, applications received after January will be processed; if openings exist within programs, applicants who apply

after January 31 will receive acceptance. In addition, transcripts from all colleges previously attended must be submitted to the College.

APPOINTMENTS FOR INTERVIEWS

Although interviews are not required, applicants are encouraged to seek help with career choices by exploring various programs with the counselors and staff. Interviews and tours may be arranged by phoning or by writing the Admissions Office for an appointment; Telephone 781-7822, Extension 3856.

TRANSFER INTO STCC

Applicants who have had previous college experience must submit all college transcripts whether or not they are seeking transfer credit. The College accepts a maximum of 30 credits toward an STCC degree transferable into the College for courses taken at other institutions. Only courses in which the student has received a grade of "C" or better and are similar in content to those required in the student's program at STCC will be accepted. Transfer applications are usually accepted for admission to the College in both September and January. January transfers are normally limited to Liberal Arts Transfer, Liberal Arts/General Studies, Business Administration, Data Processing and Engineering Transfer programs.

CLEP AND CHALLENGE EXAMINATIONS-ADVANCED PLACEMENT

The College may award up to 30 credits to persons who successfully complete examinations in specific subject areas given at the College under the aegis of the College Level Examination Program (CLEP), or a series of Challenge Exams developed by the College.

The CLEP examinations cover a wide range of disciplines and allow applicants to demonstrate proficiency in areas where they have acquired knowledge through non-traditional learning situations. Credits received by CLEP examinations allow the College to waive introductory courses which the student would normally be required to take.

The College has produced challenge examinations in subject-matter areas not found in the CLEP battery so that people who wish to demonstrate competence in specialized areas may do so. Students who feel that they possess above average competence in a subject area should not hesitate to consult the Director of Admissions for further information, consultation and testing.

High scores on the Advanced Placement Examination of the College Entrance Examination Board will be evaluated by the Admissions Staff. Specific scores as approved by the College may allow the student applicant to be exempted from certain courses.

PLACEMENT TESTING

As part of the admissions program at Springfield Technical Community College, the Admissions Office administers a PLACEMENT TESTING program in English and Mathematics. These tests are designed to provide information about a student's aptitude and abilities for placement in appropriate fundamental required courses. The College REQUIRES that all entering freshmen, regardless of the program to be entered, participate in this program so that the College may help students more effectively experience success. Anyone who does not participate in the testing will not be allowed to begin classes.

OUT-OF-STATE AND FOREIGN STUDENT INFORMATION

Because of the lengthened processing time, out-of-state residents, as well as all non-United States residents, must have all application materials complete and on file with the STCC Admissions Office prior to August 1 in order to be considered for admission to the Fall semester (December 1 for admission to the Spring semester). Prospective students who are neither United States citizens nor in the United States on permanent visas must have taken the Test of English as a Foreign Language and have the test score entered as part of their application for admission. Those who score below 525 on the TOEFL may enroll only for classes entitled English as a Second Language (ESL).



MINIMUM PREREQUISITES FOR ADMISSION

PROGRAM	DEGREE OR CERT.	LICENSE AFFILIATION OR DESIGNATION POSSIBLE	MATH	SCIENCE	OTHER	
					ACADEMIC AREA	ADD REQ.
Advanced Metals Machining	Degree		Alg 1, Geom.*			SAT
American Studies	Degree					
Automotive Technology	Degree		Alg 1	Physical		
Bio-Medical Instrumentation	Degree		Alg 2	Physical		SAT*
Business Administration ****						
Accounting ****	Degree		Alg 2*			SAT*
Finance ****	Degree		Alg 2*			SAT*
Management ****	Degree		Alg 2*			SAT*
Marketing ****	Degree		Alg 2*			SAT*
Civil Engineering Tech.	Degree		Alg 2	Physical		SAT
Computer Maintenance Tech.	Degree		Alg 2, Trig*	Physical		SAT
Cosmetology	Cert.	National License		Physical		
Data Processing	Degree		Alg 2*			
Dental Assisting	Cert.	A.D.A.A. Nat'l Cert.		Biology	Typing	SAT**
Dental Hygiene	Degree		Alg 2, Geom	Bio/Chem& Labs		DHAT, SAT***
Drafting & Design Tech.	Cert.		Alg 1	Physical		
Early Childhood Education	Degree	Nat'l Credential-Child Development Associate			Personal Interview	SAT**&
Electrical Technology	Degree		Alg 2	Physical		SAT
Electro-Mechanical Tech.	Degree		Alg 2, Geom, Trig*	Physical		SAT
Electronic Benchwork Tech.	Degree		Alg 1, Trig*	Physical		SAT
Electronic Technology	Degree		Alg 2, Trig	Physical		SAT
Emergency Medical Technician	Degree	Nat'l Cert.				
Engineering & Science						
Transfer ****	Degree		Alg 2, Trig	Chem/Physics		SAT
Environmental Technology	Degree	Certification	Alg 1	Chemistry		SAT*
Facilities Maintenance Eng.	Degree		Alg 1	Physical		SAT
Fire Protection & Safety	Degree					SAT*
Gerontology	Degree					
General Studies ****	Degree					SAT*
Graphics Arts Technology	Degree		Alg 1	Physical		SAT
Heat/Power/Air Conditioning	Degree	Cert. 2nd Class Lic.	Alg 1	Physical		SAT
Human Services Associate	Degree	Nat'l Organization of		Human Services Educators		
Instrumentation Technology	Degree		Alg 2	Physical		
Landscape/Plant Science Tech.	Degree		Alg 1	Physical		SAT*
Laser Electro-Optics Tech.	Degree	Nat'l License	Alg 2, Trig.	Physical		SAT*
Law Enforcement	Degree					SAT
Liberal Arts Transfer ****	Degree		Alg 2, Pref.			SAT, Pref.
Machine Design Technology	Degree		Alg 2, Trig.	Physical Mech.	Draw.	SAT
Medical Assistant	Degree	Nat'l Certificate		Biology		SAT

MINIMUM PREREQUISITES FOR ADMISSION (cont'd)

<u>PROGRAM</u>	<u>DEGREE OR CERT.</u>	<u>LICENSE AFFILIATION OR DESIGNATION POSSIBLE</u>	<u>MATH</u>	<u>SCIENCE</u>	<u>OTHER ACADEMIC ADD AREA REQ.</u>	
Medical Laboratory Technician	Degree	Nat'l Registration	Alg 2	Biology Chemistry		SAT**
Modern Studies	Degree					
Nuclear Medicine Technician	Degree	Nat'l Certification	Alg 2*	Bio/Chem. Physics****		SAT
Nursing	Degree	R.N.	Alg 2	Bio/Chem.		SAT***
Occupational Safety & Health	Degree		Alg 1	Physical		SAT
Surgical Technology	Degree	Nat'l Certification	Alg 2	Bio/Chem		SAT
Physical Therapist Assistant	Degree		Alg 2	Bio/Chem		SAT***
Radiation Technician	Degree	Nat'l Certification	Alg 2*	Bio/Chem, Physics****		SAT
Radiologic Technology	Degree	Nat'l Certification	Alg 2*	Bio/Chem, Physics****		SAT
Respiratory Therapy	Degree		Alg 2	Bio/Chem		SAT
Office Systems/Secretarial Sciences						
Bilingual	Degree	Cert. Pro. Secretary				SAT*
Clerical Office Assist.	Cert.					SAT
Court Stenography	Degree	Cert. Shorthand Reporter, Mass. Short. Reporter Association				
Executive	Degree	Cert. Pro. Secretary				SAT*
Legal	Degree	Cert. Pro. Secretary				SAT*
Medical	Degree					SAT*
Word Processing Management	Degree					SAT*
Solar Energy	Degree	Cert. 2nd Class Lic.	Alg 1	Physical		SAT*
Telecommunications	Degree					SAT*

* Not mandatory but recommended.

** These Programs will require a minimum combined SAT total score of 750.

*** These programs will require minimum SAT score of 450 each in Verbal and Math.

**** These programs will require one of the listed science requirements - two others are strongly desired.

***** University Parallel Program

Information as of
November, 1980

TUITION AND FEES

TUITION FEE

The Commonwealth of Massachusetts has set tuition at \$250 per semester for State residents and \$850 per semester for non-residents. Part-time students pay \$25 per credit, while part-time non-resident students pay \$85 per credit. The charge for auditing a course is set at \$21 per credit. Under an agreement among the New England States, students from any of the six states may attend college in another of the six states for the same tuition as a resident of the state, provided that the program desired is not available in their state or that the community college is closer than that in the home state. Persons sixty-five years of age or over may attend STCC tuition free if the College is not overenrolled and if the person's annual income is not in excess of twelve thousand dollars.

Tuition and fees listed above are those as of November, 1980, and are subject to change without further notice.

STUDENT ACTIVITY FEE

To promote athletics, student affairs, clubs and scholastic endeavors such as student publications, each student must pay a student activity fee. The rate is set yearly by the student government and is payable each semester.

PARKING FEE

Parking is limited on campus. Seniors may park on campus up to the limit of space. Parking fees will be established each year. Off-campus parking is available near the College for varying prices.

GRADUATION FEE

To cover the cost of the graduation ceremony and the graduate's cap and gown, the College assesses each graduating student a \$20 fee. The student is charged this amount at the same time as he receives his fourth semester bill.

INSURANCE

The Commonwealth of Massachusetts requires each student to purchase through the College an accident insurance policy for a minimum charge which is part of the Student Activities Fee. Optional plans under this policy may be purchased to provide hospitalization and twenty-four hour protection. Information about insurance will be sent to each admitted student. Students in Allied Health and Nursing are required to carry liability insurance in addition to the accident policy.

BOOKS AND SUPPLIES

Estimated costs for books and supplies vary by department, but \$100 to \$150 per year should pay for most books and supplies. The College bookstore, operated by an outside concern, provides, at reasonable costs, many of the items that the student requires during his stay at STCC. Students are also required to pay a LIM fee for all courses (See Summary of Tuition and Fees).

PAYMENT OF BILLS

All tuition and fees are payable before each semester begins. No deferred payment plans or

partial payment plans are available. If payment is to be made by agencies or scholarship programs, arrangements must be made in advance with the Financial Aid Office. All student financial obligations must be satisfied before a student is considered properly registered. No grades, transcripts, recommendations or other services will be provided to students with outstanding financial obligations.

VETERANS

Veterans may be eligible for a tuition waiver while attending a State-supported college or university. Note: Division of Continuing Education is not State supported. The guidelines that have to be met in order to receive a tuition waiver are as follows:

1. Military service must be accredited to the Commonwealth of Massachusetts (i.e., "Home of Record" on DD-214 must reflect city or town in Massachusetts).
2. Veteran must have served 181 consecutive days active duty.
3. Veteran must have served at least one day active duty on or before May 7, 1975.
4. Veteran must bring copy of DD-214 to the Office of Veterans Affairs.
5. Eligible veterans based on above criteria may use tuition waiver 15 years after date/separation from active duty or up to 130 credit hours.

Those veterans attending the Division of Continuing Education must also be able to satisfy the above requirements. In addition, their entitlement to Federal G.E. educational benefits must have expired. For more information concerning the possibility of qualifying for a Massachusetts State tuition waiver, based on your military service, please contact the Office of Veterans Affairs on campus. The Office of Veterans Affairs operates on an open-door basis. Assistance is available in the following areas: academic counseling, veterans' benefits counseling, upgrading of discharges, disability claims and referral service.

TUITION REFUNDS

Tuition refunds are made only to those students who officially withdraw from the College. In order to do this, a student should personally, or by written communication, notify the Registrar of his decision. The College will, thereupon, refund a portion of the student's tuition according to the following schedule established by State regulations:

Withdrawal during first week	90 percent
Withdrawal after one week	70 percent
Withdrawal after three weeks	50 percent
Withdrawal after four weeks	No Refund

All refunds are made by the State Treasurer and take approximately 6 weeks.

It should be noted that no provision is made for refunds of any other fees or charges except for tuition.

The first \$35 of tuition is non-refundable and is excluded from the refund computations.

FOREIGN STUDENTS

Every student attending the college with a student visa must pay out of state tuition rates.

SUMMARY OF TUITION AND FEES

Tuition and Fees listed below are those as of November, 1980, and are subject to change without further notice.

Application Fee (non-refundable)	\$ 10
Registration Fee (deductable from tuition)	
(non-refundable)	35
Tuition for Mass. Residents (per semester)	250
Tuition for Out-of-State Students	
(per semester)	850.50
Tuition, Part-Time (Massachusetts)	
(per semester hour)	25
Tuition, Part-Time (Non-Resident)	
(per semester hour)	85
Tuition, Audit Per Course	21
Student Activities Fee	
Full-time students (12 or more credits	
per semester)	20
Part-time students (less than 12 credits	
per semester)	10
Placement Test Fee	7
Late Registration Fee	5.20
Change of Course Fee/Per Course	3
Make-up Examination Fee	5
Student Insurance (Required)	5.20
Supplemental 24-hour Accident and	
Sickness Plan (See Dean of Student Serv.)	
Student Liability Insurance (approx.)	11*
Transcripts	
First	no charge
Each Additional	1
Graduation Fee (payable at the beginning	
of the semester preceding graduation)	20
Laboratory Institutional Materials Fee (LIM)	
(\$1.50 per credit hour is charged for all	
courses up to a maximum of \$20 per semester.)	

* Mandatory for Allied Health & Nursing Students.

DETERMINATION OF RESIDENT STATUS

An in-state student is defined as one who has lived in Massachusetts for 6 continuous months with the intention of living in the state indefinitely. (See the back of the application for place to sign, and information on how some other New England residents can qualify for in-state tuition.)

Tuition for out-of-state residents and foreign students is \$1435 per year. Any person attending the College with a student visa must pay out-of-state tuition.

Tuition is FREE for members of the Air National Guard and for senior citizens with an annual income of \$12,000 or less. If you are a Veteran, contact the Veterans' Office, 781-7822, extension 3869, to obtain a tuition waiver.



FINANCIAL AID

As more and more people seek higher education, Springfield Technical Community College is making an intensive effort to aid its students in obtaining financial assistance in order that no man or woman is denied a college education because of economic barriers. Based on an individual's financial need, the Financial Aid Office allocates funds to assist eligible students in paying for the cost of their college education. Assistance is provided through several sources, and a student may receive a combination of more than one type of help.

APPLICATION PROCEDURE

Springfield Technical Community College is affiliated with the College Scholarship Service (CSS). This organization's forms are used to provide the College with data, which is evaluated by the Financial Aid Officer when he determines a student's need.

Students being supported by their parents should obtain a copy of the Financial Aid Form from their high school guidance counselor or the Financial Aid Office of the College. Married students and others not receiving financial support from their parents (and whose parents do not claim them as dependents) should use the Financial Aid Form which is available at the College.

The FAF should be mailed to the address indicated on these forms. List Springfield Technical Community College, 3791. In addition to the FAF, each applicant must also complete a separate Springfield Technical Community College Financial Aid Application obtained by writing to the Financial Aid Office of the College.

It should be noted that financial assistance received in any one year does not automatically guarantee aid in a subsequent year. A new application must be submitted each year. The deadline date for filing the above forms is March 31. Applications received after this date may not receive consideration.

You must be able to verify your financial data.

COLLEGE WORK-STUDY

Students earn \$3.10 per hour while working up to 20 hours maximum a week when the College is in session. During vacation periods, worktime may be increased to 35 hours a week.

College Work-Study is particularly well-suited to the student who needs extra income to stay in school but feels a full-time, outside job might jeopardize his studies. Hours usually can be arranged to follow the student's class schedule.

BASIC EDUCATIONAL OPPORTUNITY GRANTS

BEOG is a federal grant program, which awards amounts approximately to \$938 based on financial need. Applications may be obtained from high school counselors or the College's Director of Financial Aid.

SUPPLEMENTARY EDUCATIONAL OPPORTUNITY GRANTS (SEOG)

Supplementary Educational Opportunity Grants are outright awards that do not have to be repaid. They are given to students of limited financial resources who would be unable to attend college without such help. Grants range

from \$200 to \$1,500 per year. SEOG recipients must match the amount of the grant with a scholarship. This grant is not one that can be applied for by the student.

NURSING STUDENT LOAN PROGRAM

Nursing students are eligible for Nursing Student Loans which enable them to borrow up to \$2,500 per year to finance their training. Terms for Nursing Loans are the same as for the National Direct Student Loans.

NATIONAL DIRECT STUDENT LOANS

Through National Direct Student Loans, a student may borrow up to \$2,500 in one year. Loans accumulate no interest while the student remains in college or continues his studies at another institution. Repayment begins nine months after the completion of the student's formal education. Loans are repaid over an extended period with a simple 3% interest rate. No payments are made when the borrower is in the military. National Direct Student Loans also have payment cancellation clauses for recipients who become teachers in eligible institutions.

NURSING SCHOLARSHIP PROGRAM

This program has been developed to assist students of exceptional financial need to attain a career in nursing. There is no matching fund requirement under the Nursing Scholarship Program. However, Nursing Scholarships usually are combined with Nursing Student Loans to provide a financial package to meet a student's individual need.

BOARD OF HIGHER EDUCATION SCHOLARSHIP

The Commonwealth of Massachusetts sponsors an excellent scholarship program for full-time students who are residents of the State. Applications may be obtained at any secondary school guidance office or by writing to the Scholarship Office, Board of Higher Education, Commonwealth of Massachusetts, 182 Tremont Street, Boston, MA 02111. Deadline for entering freshmen is usually January 31. Renewal deadline is May 1.

PRIVATE ORGANIZATION SCHOLARSHIPS

Several scholarships awarded by private organizations in Greater Springfield are also available. Requests for information should be directed to the Financial Aid Office, STCC.

H.E.L.P. LOANS

The Massachusetts Higher Education Loan Assistance Corporation guarantees student loans up to \$2,500 per year. Called HELP Loans, repayment begins after the student has completed his formal education. Such loans are obtained from Massachusetts Savings banks which can provide complete details about terms.

LEEP PROGRAM

Eligible students enrolled in Law Enforcement courses may receive assistance through the Law Enforcement Education Program (LEEP). LEEP is supported by federal funds and administered by the United States Department of Justice.

ACADEMIC INFORMATION

ACADEMIC YEAR

The academic year at Springfield Technical Community College is divided into two semesters with the first semester ending prior to Christmas vacation and the second semester resuming in the later part of January. The final week of each semester is devoted to final exams. Unless a formal change is published, the calendar in the STCC College Catalog is official.

ACADEMIC STANDING

A. Required Quality Point Average

The quality point index required to maintain good academic standing is:

1. After completion of 12 hours of college level credit taken at STCC and/or accepted as transfer credit, a quality point average of 1.5 or higher.
2. After completion of 27 hours of college level credit taken at STCC and/or accepted as transfer credit, a quality point average of 1.7 or higher.
3. After completion of 42 hours of college level credit taken at STCC and/or accepted as transfer credit, a quality point average of 1.9 or higher.
4. After completion of 60 hours of college level credit taken at STCC and/or accepted as transfer credit, a quality point average of at least 2.0.

B. Probation and Suspension

Students who do not meet the above requirements will be placed on academic probation. After one semester of probation, a student will be:

1. Suspended unless the cumulative quality point average is raised to that required for good standing (i.e. 1.7 for 27 hours, 1.9 for 42 hours, 2.0 for 60 hours or more hours), or
2. continued on probation if the semester quality point average is 2.25 or above but the cumulative point average stays below that required to remain in good standing, or
3. continued on probation if not in attendance, or
4. removed from probation if the cumulative point average is raised to or above that required to maintain good academic standing.

Note: A student may be suspended without having previously been placed on probation if the semester quality point average falls below 0.99.

C. Satisfactory Progress

1. Unless there are special circumstances, students must complete 75% of courses attempted to be considered to be making satisfactory progress toward a degree. Students not making satisfactory progress will normally be denied financial aid.
2. Students with a pattern of "W's" or "I's" showing up on their transcripts from previous semesters (more than 25% as mentioned above) and who are receiving aid in excess of tuition and fee expenses may have their portion of the money withheld until completion of the semester. The student's share of the money may be returned to the source if the student

falls to complete enough semester hours to be considered a full-time student.

3. The College expects students to take a majority of courses in each semester which lead toward a degree in the major in which the student is enrolled.

D. Waiver of Provisions of the Academic Standing Policy

The Dean of Student Services Office administers the Academic Standing policy and questions may be addressed to that office.

An Academic Review Committee is named by the President of the College. The Committee has the authority to:

1. Readmit students
2. Waive provisions of the policy on academic standing.
3. Hear student petitions or grievances pertaining to the policy.
4. Give counsel and advice to those who administer the policy and give interpretation and intent clarifications.

Students in the health science programs must maintain a minimum quality point average of 2.0 in their major area of concentration and be accepted by a clinical facility for affiliation. Nursing students must maintain a 2.15 in their major area of concentration. All students in health sciences and nursing must maintain a quality point average of 2.0 in the biological and physical sciences.

The accumulation of credits alone does not necessarily mean that a student is entitled to a degree. A student should refer to his/her specific program curriculum for graduation requirements.

GRADUATION REQUIREMENTS

The Springfield Technical Community College Board of Trustees has statutory authority under the Commonwealth's Board of Regents of Higher Education to confer academic degrees. Candidates for degrees shall have fulfilled the following requirements:

1. Candidates for degrees must meet all departmental graduation requirements. A minimum of 30 credit hours must be earned in residence at the College. Also, the student must have completed at least 20 credits in general education.
2. The student must have earned a minimum cumulative quality point average of 2.0 for all college level courses. Developmental courses are not credited toward graduation requirements.
3. The student must have satisfied all financial obligations to the College, including the payment of the graduation fee, at the beginning of the semester preceding graduation or when 45 credits have been approved for graduation.
4. A National Direct Student Loan recipient must have completed the exit interview with the Financial Aid Officer or his representative.

EXAMINATIONS AND GRADES

Final examinations are scheduled for each course. At the end of each semester, all students receive written letter grades according to the following standards:

Letter Grade	Qualitative Equivalent	Quality Points Earned Per Credit Hour
A	93 through 100	4.0
A minus	90 through 92	3.7
B plus	87 through 89	3.3
B	83 through 86	3.0
B minus	80 through 82	2.7
C plus	77 through 79	2.3
C	73 through 76	2.0
C minus	70 through 72	1.7
D plus	67 through 69	1.3
D	63 through 66	1.0
D minus	60 through 62	0.7
F	Below 60	0.0
I	Incomplete	no grade
W	Withdrawn	no grade
Au	Audit	non-credit*

*Non-graduation-credit courses are not factored into the Quality Point Average.

The grade of Incomplete (I) indicates that a major requirement of the course has not been completed. The following policy shall apply to Incompletes:

1. The grade of "I" will remain on a student's transcript until removed but will not be calculated into the student's cum unless he requests the Registrar, in writing, to do so prior to end of the current semester.
2. If the student does make the above request the grade of "I" will be calculated into his cum as zero.
3. A faculty member is under no obligation to remove the Incomplete after the end of the first month in the following semester but may do so if he/she wishes.
4. The grade of Incomplete may not be removed after the end of the next semester in which the student is enrolled.
5. Nothing in the above shall abridge the process of administrative withdrawal.
6. Within the above framework, the "I" may be removed by challenge exam or by departmental action with subsequent approval by the Dean of Academic Affairs.
7. This policy shall apply uniformly to the Day Division and the Division of Continuing Education.

MAKE-UP EXAMINATIONS

A student failing to take a semester examination may apply in writing to the appropriate academic division chairperson and the instructor concerned, and, subsequently, the Dean of Academic Affairs who may give permission to take a make-up examination. If, in their opinion, absence from the regularly scheduled examination was unavoidable, the student may take a make-up examination upon payment of a \$5 fee.

CLASS SCHEDULE

In the majority of cases, with the exception of Directed Study courses, three-credit courses meet three times a week and are of 50 minutes duration, or are 75 minutes long and meet twice a week. Exceptions may be found in career

curricula and other special programs. Class hours begin at 8:00 a.m.

CLASS ATTENDANCE/GRADING POLICY

The faculty of the College has voted to allow each instructor to set his/her own classroom attendance policy. Each faculty member will notify his students in writing at the start of each semester of his/her attendance policy, grading policy and course requirements. The Dean of Student Services will, upon request from an instructor, warn students when they are in violation of an instructor's published attendance policy. The Dean of Student Services may, at the recommendation of the instructor, withdraw such a student from that class.

Off-campus activities, appropriately supervised and sponsored by faculty members, which justify a student's absence from scheduled classes, must be approved in advance by the Dean of Student Services. Such activities must be justifiable on grounds consistent with the educational program of the College. Whether a student is excused from class or examination to participate in such activities is determined by the instructor concerned.

MID-SEMESTER GRADES

At mid-semester, students will be graded by each of their professors. These grades will be recorded by the Registrar and forwarded to each student's advisor for dissemination and discussion. These grades will not become part of a student's permanent record but are used to indicate his/her performance through the first half of the semester.

REGISTRATION

Final registration is held during the first week of school each semester. At this time students may drop courses. Admittance to a course at this time is, however, dependent upon the seats available. Students wishing to add a course after the first week of classes will be subject to a late fee of \$3 per course.

Registration for the spring semester is held in October, while registration for the fall semester is held in March. Students expecting to return for the next semester must register with their faculty advisors. It is the student's responsibility to seek out information concerning departmental course requirements prior to registration. This may be done with the assistance of his department chairman, faculty advisor, or counselor.

COURSE CHANGES

Students are permitted to add and drop courses (subject to the approval of faculty advisors) during the first week of classes without penalty. Any changes made thereafter will require the payment of a \$3 fee by the student to the Cashier's Office. No change will be permitted beyond the second week of classes.

PROGRAM CHANGES

A program change is defined as a change of major or department and, though permissible under certain guidelines, should be undertaken only with considerable thought and counsel. A

student who is seriously considering a program change should seek immediate advice from his/her faculty advisor.

The major requisite for this type of change is the consent of both the Chairman of the department that he wishes to leave and that of the Chairman of the department into which the student is seeking admission.

It should be noted that such a change may cause consequences such as the postponing of his graduation because of the necessity of taking prerequisite and core courses in the new department.

COURSE WITHDRAWAL

A student may withdraw from a course through the sixth week of class without any grade recorded on his transcript; a student may withdraw from a course through the fourteenth week and receive a withdrawal grade on his official transcript.

REPETITION OF COURSES

Any student who receives an unsatisfactory grade in a course may repeat that course and both grades will appear on his permanent record. However, only the second grade will be calculated into his quality point average. In order for this policy to be in effect, a student is required to inform the Registrar that he is repeating a course by completing a course repeat form concurrent with the actual repeating of the course(s).

AUDITING OF CLASSES

Students may attend certain classes as auditors (i.e., without receiving credit) under the following conditions:

1. Permission must be obtained from the Registrar during registration period.
2. All established charges for the course must be paid.
3. Priority in registration will be given to students who are registering in the course for credit.
4. Audit courses will be reflected on student's permanent record as Audit.

ACADEMIC HONESTY

Plagiarism is a serious offense for which an individual will be subject to disciplinary action, including suspension and dismissal.

DEAN'S LIST

In order to recognize above-average academic performance, a Dean's List is published each semester. Any student carrying 12 or more semester hours who earns a 3.0 quality point average is placed on the Dean's List, providing that student has no grade less than a "C" in that semester.

PRESIDENT'S LIST

In an attempt to recognize extraordinary achievement, the College has instituted a President's List. In order to be eligible for this meritorious honor, a candidate must be a full-time day student carrying a minimum of 12 credit hours and must attain a quality point average (QPA) of 3.80.

HONOR SOCIETY

The Alpha Nu Omega Honor Society has its Alpha Chapter at STCC. The purpose of the honor society is to stimulate within the student body a desire for self-improvement and intellectual growth by acknowledging academic achievement.

Membership in Alpha Nu Omega is open to any full-time day student who has earned a 3.3 quality point average for college level courses during the previous semester, has a cumulative quality point average of 3.0, and has applied to the Honor Society's advisors for membership. A student in the Division of Continuing Education is eligible if he or she carried a minimum of 9 credits and otherwise meets the above criteria.



STUDENT INFORMATION

STUDENT'S RIGHTS AND RESPONSIBILITIES

GOAL

To provide an atmosphere where sound intellectual and academic development is provided.

OBJECTIVES

A. Student Responsibilities

1. To be knowledgeable of and comply with the directives, regulations, and laws as established by the Massachusetts Board of Regional Community Colleges, the College, and the Student Government.
2. To respect the rights of individuals and groups to independent action as long as those rights do not interfere with the parallel rights of others - minorities and majorities alike - including the avoidance of action interfering with those educational processes under the auspices of the College.
3. To be knowledgeable of and comply with the directives, regulations, and laws of duly constituted civil authorities.

B. Student Rights

1. To have the opportunity to pursue higher education.
2. To have the freedom to exercise the rights of citizenship, association, inquiry, and expression.
3. To have the right of privacy and confidentiality.
4. To have the right of voting representation on all recommendations to the President of the College on matters of concern, including but not limited to, academic standards, student affairs, and curriculum changes.
5. To have the right of quality education, including but not limited to:
 - a. The right to competent instruction in courses and programs offered by the College.
 - b. The right to assistance in overcoming educational, cultural, emotional and economic disadvantages which hinder the educational process.
 - c. The right to receive in writing from each faculty member during the first week of classes, of every quarter or semester, a brief, written course description and outline of the material to be covered, course requirements including a specific list of information and techniques which the student is expected to acquire, attendance policy, and the grading system to be utilized.
6. To have the right to fair and equal treatment, including but not limited to instruction, evaluation, and services by faculty, staff, students, and administrators.
7. To have the right to procedural due process in grievance and disciplinary hearings.

Approved by the Mass. Board of Regional Community Colleges, 4/15/77.

MASSACHUSETTS COMMUNITY COLLEGES STUDENT GRIEVANCE PROCEDURE

Definitions - I

A "grievance" shall mean a complaint which has been filed by a grievant dealing specifically with an allegation concerning any form of discrimination or abrogation of student rights.

A "grievant" shall mean a student or group of students at the College or the Student Advisory Commission.

A "student" shall mean an individual(s) enrolled at the College at the time of the alleged grievance.

Purpose - II

The primary purpose of this procedure is to secure prompt and equitable resolution of a grievance. This includes matters filed under Title IX, Education Amendments of 1972. Customary channels of communication shall be used wherever feasible, in seeking clarification of questions of concern, before the grievance procedure is utilized. Every effort shall be made to maintain confidentiality at each level of this procedure.

Time - III

The number of days indicated at each level shall be considered as the maximum. Every effort should be made to expedite the process. However, the time limits specified may be extended by mutual agreement of the grievant and the person against whom the grievance has been directed, or in the case of extenuating circumstances, by his/her immediate supervisor.

Procedure - IV

Level One: Step One - The grievant shall first present his/her grievance orally and informally to the person against whom a grievance exists. This should be done in a reasonable period of time, within thirty (30) calendar days from the date of the grievance action or from the date that the grievant knew of the grievable act.

Step Two - If the grievance is not resolved within five (5) working days, the grievant may present, in writing, the allegations supporting the grievance including all of the known facts to the persons against whom the grievance is directed. The person against whom the grievance is directed must respond, in writing, within five (5) working days to the grievant.

Step Three - If the grievance is not resolved within the said five (5) working days, the grievant may present it in writing to the supervisor of the person against whom the grievance is directed. The supervisor must respond in writing within five (5) working days with his/her decision to the grievant.

Step Four - If the grievance is not resolved within the said five (5) working days, the grievant may present a formal claim in writing, including all the supporting statements and evidence, to the College Student Grievance Committee. Within ten (10) working days after receiving the written grievance, the committee shall state its decision in writing, with all supporting reasons and evidence, to the grievant and the person against whom the grievance is directed.

Level Two: Within five (5) working days after receiving the decision from Level One - Step Four, the grievant may appeal the decision to the president of the college. This appeal should be in writing and shall be accompanied by the original complaint and copies of all previous supporting statements, evidence, and decisions. The president shall evaluate the evidence and make his/her decision, in writing,

within ten (10) working days after receiving the appeal, to all concerned parties. The decision of the president is final and binding, unless it is alleged that said decision was applied in an arbitrary, capricious, or non-uniform manner.

Level Three: If the grievant claims the decision of the president is rendered in an arbitrary, capricious, or non-uniform manner, the grievant may refer the matter to the Student Advisory Commission, in writing, within five (5) working days after receipt of the president's decision. If the Student Advisory Commission finds the allegations reported have some substance in fact, it may, within thirty (30) calendar days, file a written appeal to the President of the Massachusetts Board of Regional Community Colleges. The President shall render his/her decision, in writing, within ten (10) working days, to the Student Advisory Commission. Said decision is final and binding.

Withdrawal - V

A grievance may be withdrawn by the grievant at any level without prejudice or record.

Hearings and Decisions - VI

At each of the above levels, the grievant and the person against whom the grievance is directed shall be given the opportunity to be present and to be heard. In addition, each party may present, examine, and cross-examine witnesses. All decisions at each level shall be in writing, with the exception of level one-step one, and shall include supporting reasons. Copies of all decisions and recommendations shall be given to both parties.

Reprisals - VII

No reprisals of any kind shall be taken against any participant in the grievance procedure.

Preservation of Records - VIII

After the final decision has been made, all supporting data shall be preserved for a period not to exceed three years. During this period, the grievant and/or the person against whom the grievance was directed may request in writing that the data be included in or excluded from his/her official college record.

Disclaimer - IX

In the adoption and implementation of this grievance procedure, it shall be understood that at no level is this a court of law and that rules of evidence shall not apply.

Membership of the College Student Grievance Committee - X

The composition of the College Student Grievance Committee shall consist of seven members: 1 classified personnel, 1 administrator, 2 faculty unit members, 2 students.

The seventh member shall be from the same identifiable group as the person against whom the grievance has been filed. In cases of discrimination as they apply to Title IX, the Affirmative Action Officer shall be a non-voting member of the Committee. No member who has a personal interest in the particular grievance shall be eligible to serve on the Grievance Committee. The Student Advisory Commissioner is prohibited from being seated on the College Student Grievance Committee.

Selection of the College Student Grievance Committee - XI

The selection of the College Student Grievance Committee shall be made from a random selection of candidates assigned to the Student Grievance Committee Pool. This pool shall consist of: 5 classified personnel, 5 administrators, 10 faculty unit members, 10 students. Assignment to the College Student Grievance Committee Pool shall be determined by election and/or appointment by the proper representative.

Type of Hearing - XII

The hearing shall be a closed meeting (hearings commence at level one-step four).

XIII

A. Filing a grievance in accordance with the procedure set forth above in no way abrogates the student's right to file complaints with the appropriate state and federal agencies or with the courts. However, the grievant's initiation of proceedings in any other forum waives his/her right to utilize the grievance procedure outlined above.

B. No provision herein contained shall operate to restrict the right of either party to follow the same procedure of appeal as outlined above.

C. All written responses shall be served by delivering in hand a copy to the appropriate person or by the mailing of a registered letter to the appropriate person at his/her residence or at his/her last known residence.

Approved by the Mass. Board of Regional Community Colleges 4/15/77.



CODE OF CONDUCT

The college assumes that its students will behave in such a way that will reflect creditably upon their homes, parents, College and community. To help provide an orderly atmosphere to nurture student development, certain regulations and policies have been developed over the years. The College further assumes that all students will abide by these regulations and policies. Violations of established College policy may result in disciplinary action up to and including suspension from the College.

The following is not an all-inclusive list of prohibited actions, but will serve as a guideline.

1. Academic dishonesty - such as plagiarism, cheating, use of unauthorized books or notes, knowingly furnishing false information, unauthorized reading, removing, duplicating, photographing, misuse of any college file, document, or record of any faculty, administrator, staff or student.
2. Alteration of college records, documents, or identification instruments or the use of the same with the intent to defraud.
3. The possession or use of narcotics and dangerous drugs as defined by the laws of the Commonwealth of Massachusetts is prohibited on campus and at all college-sponsored off-campus activities. The use or possession of alcoholic beverages is restricted by the Massachusetts Board of Regional Community Colleges to special social events.
4. Intentional obstruction or disruption of normal college conduct, functions, processes, routines, college activities on or off campus, or activities of those invited to the campus for any purpose.
5. Physical abuse or misuse of persons or property on campus or at college-approved off-campus activities.
6. Theft, or unauthorized use or possession of any property (including keys, files, documents, library materials, etc.) owned, leased, or maintained by the college or by persons on the campus.
7. Weapons, firearms, explosives - possession, sale, or use of any weapon, firearm, explosive, or explosive device including fireworks. Permits will be issued by the Dean of Students for weapons being taken to the Rifle Range during scheduled Rifle Club meetings.
8. Failure to comply with directions of college faculty, staff and administration acting in the performance of their duties.
9. Violations of published college regulations including parking, motor vehicle movement, use of college buildings or equipment and any other regulations which may from time to time be enacted.

POLICY OF CONFIDENTIALITY OF STUDENT RECORDS

The Family Educational Rights and Privacy Acts 1974, as amended, provides for students to have access to their educational records, to challenge anything in the records which they consider inaccurate or misleading, and to limit the release of such information.

In compliance with the law, the College has established a policy to protect students from misuse of information. The policy is summar-

ized as follows:

1. Directory Information - will include (1) name; (2) address, (3) confirmation of date of graduation and certificate/degree received. Students may withhold their Directory Information by notifying the Dean of Student Services.
2. Authorized personnel may have limited access to student records for (1) internal educational purposes, (2) routine administrative and statistical purposes, or (3) legitimate inquiries made to review a student's background information in order to adequately instruct and advise the student in a specific academic area.
3. A record log or audit trail will be kept for all students showing the student's records. No record of access need be kept if the obtained information is considered directory information, is required for normal clerical maintenance of a file, or as seen by authorized personnel in the normal performance of their responsibilities.
4. No records will be released to anyone without the formal written consent of the student concerned. A student will be notified whenever a court subpoenas the records.
5. Students may have general access to their records and the right to challenge records they believe to be inaccurate, incomplete, or misleading, or otherwise in violation of their privacy.

OFF-CAMPUS RESIDENCE

Springfield Technical Community College realizes that it offers a wide variety of programs not available at other colleges or institutions which attract many students who are not within commuting distance. In order to assist these non-commuting students, the College has found that in the past the facilities provided by the YMCA have more than met the needs of students.

Other housing accommodations are readily available in close proximity to the College. The College, however, assumes no responsibility for students living off campus, but will provide assistance in locating housing.



SPECIAL STUDENT SERVICES PROGRAM

The College has specialists to service:

1. Handicapped students
2. Veterans
3. Limited English-Speaking
4. Black and Hispanic Americans
5. Students in need of financial counseling or assistance
6. Students in need of career counseling
7. Students in need of special tutoring.

An important feature of our program is to provide individual academic and vocational counseling through the faculty advisors and appropriate specialists. Students who for whatever reason suffer a linguistic and/or learning handicap will be given special tutorial assistance and counseling. Referral to any of the student service specialists may be made through the faculty advisor or the Dean of Student Services office.

The student's need for and interest in self-identity and community awareness is an acknowledged fact. The College works closely with students and community representatives to incorporate into our program special classes and cultural activities to satisfy this need. Through special funding, the college has implemented a program of courses and events to develop an awareness of cultural heritage among Hispanic and other ethnic groups of the community.

Tutorial Assistance Program:

The Tutorial Assistance Program is an important component of Springfield Technical Community College. Through the services of this program, students in need of tutorial assistance receive tutoring in any academic field. The Tutorial Assistance Program Coordinator is located on the first floor of Building 15, in the Admissions-Registration Center.

CAREER SERVICES

The Counseling Center is where students may go to receive assistance in areas of career, educational, or personal concerns. The Center is staffed by professional counselors whose primary function is to help students make good decisions when they are experiencing uncertainties or difficulties, or are planning their futures. The areas of counseling available are listed below:

Career Development

Career Counseling helps students make sensible career choices. Individual appointments are available to help students through the decision-making process in which they set priorities and plan and implement both short and long-range career goals.

Career Testing is available to help students match values, skills, interests and needs with possible career choices.

MOIS - The Massachusetts Occupational Information System is a computerized counseling tool containing job descriptions, employment outlook, sources of financial aid, and programs of study and training. MOIS is easy for the student to use and a valuable source of information.

Career Resources - The Center maintains an excellent collection of catalogues, directories, pamphlets and other career resources which students are welcome to use. The STCC Library also has an extensive career collection, including microfiche copies of all recent college catalog from across the country.

Career Development Course-A credit course in career development is taught to introduce students to aspects of career decision-making. Students in the course are taken through the steps needed to make good career decisions.

Academic and Transfer Advisement:

Academic Advisement is offered to students or prospective students to assist them in making appropriate program and course choices. Program sheets outlining STCC degree requirements are available in the Counseling Center.

Transfer Advisement - Students intending to transfer to four-year colleges need to plan early in order to take courses or programs paralleling requirements at the college they hope to attend. Assistance, in the form of academic advisement, catalogues and advocacy for the student, is available in the Counseling Center.

Personal Counseling:

Support Counseling - Counselors are available to offer support counseling to students experiencing difficulty in their academic work due to personal crises or circumstances. In most cases, people need support in making difficult decisions or adjusting to circumstances which are causing anxiety or stress. Counselors provide a confidential setting in which students find assistance and support in dealing with the problems they are experiencing.

Referral - When long-term or crisis therapy is necessary, counselors work with students to find a private or community agency which can provide the appropriate evaluation and follow-up. Counselors maintain relationships with community mental health professionals to make the referral process easy for STCC students.

Special Interest Groups:

Handicapped Students - The Counselor for Handicapped Students is available to work with students who have a physical or emotional disability which may be interfering with academic progress. This counselor can provide personal support and assistance in getting appropriate equipment or financial aid.

THE LIBRARY

The library is located on the second floor of Building 27. Hours are 8 a.m. to 9 p.m. week-days, except Fridays when the library closes at 5 p.m. It is not open on weekends or legal holidays; summer and vacation hours vary. All students, part and full time, day and evening school, may use the library resources and services.

Print Materials:

The library book collection contains 45,000 volumes. Some of these are reference books,

including encyclopedias, atlases, almanacs, and dictionaries, which must be used in the library. All other books may be charged out. Over 240 journal subscriptions are received regularly. These include popular magazines as well as a wide variety of specialized journals covering the fields relating to the STCC curriculum. Several different periodical indexes provide access to journal articles. Other materials include: newspapers from Springfield, Boston, Hartford, and New York; college catalogs from schools throughout the country; a file of Spanish language materials; a document and collection file of current fiction and non-fiction paperbacks; and a juvenile book collection maintained for the Children's Literature course but available to all library users.

Career Center:

The library offers a variety of materials on different careers; these materials are organized together in the Career Center opposite the circulation desk. Included here are vocational brochures, occupational outlooks, career handbooks and many other sources of information about careers--most of which are available for loan.

Non-Print Materials:

The library maintains a large, diversified collection of non-print or audiovisual materials. These include 16mm films, video cassettes, audio cassettes sound and silent filmstrips, 8mm sound and silent film loops, slides, records, and transparencies. Cassettes, records, filmstrips, and slides may be signed out; all other materials may be used in the audiovisual viewing room which has individual carrels with equipment for using all library audiovisual materials. Staff from the AV Software Department are available to help students with these machines.

Circulation:

All library materials are charged out and returned at the circulation desk. College catalogs and "room reserves" are located here as well. A student ID card is necessary in order to sign out materials. There is a book drop outside of Building 16 where materials may be returned when the library is closed.

Reference:

Anyone who has difficulty locating books or information for class-related or personal use should request assistance at the reference desk. The Reference Librarian is available to help students find information and to show them how to use the variety of research sources available in the library.

Cooperating Libraries of Greater Springfield:

Through an agreement among the colleges in the Greater Springfield area, any STCC student may use the other college libraries by presenting an STCC ID. The participating institutions are: American International College, Bay Path Junior College, College of Our Lady of the Elms, Holyoke Community College, Springfield

College, Western New England College and Law School, and Westfield State College. The Springfield City Library and Baystate Medical Center Library are also included in the group. As a result of CLGS, many additional resources are available. When using other area libraries, students are subject to their policies and regulations concerning loan periods and possible penalties for overdue materials.

Interlibrary Loans:

Students may use the library resources of all Massachusetts public college and university libraries through the WILL (Walk-in Interlibrary Loan) program by presenting an STCC ID. If a student needs a book which is unavailable in the Greater Springfield area or at the University of Massachusetts, the book can be borrowed through the mail on Interlibrary Loan. All requests for ILL are handled at the reference desk.

Miscellaneous:

Within the library are other facilities which students may wish to use. These include a copy machine which costs \$.10 per page, and a microfilm copier which costs \$.25 per page. A student library guide with complete details on materials and services is available to all students at the circulation and reference desks.



libraries
are
something
else!

PLACEMENT SERVICE

Springfield Technical Community College maintains a centralized placement service which is part of the student personnel program. Its services include educational placement and employment placement. The Placement Office is located in Building 16, on the first floor. The specific functions of the office are to maintain a current record of employment opportunities, to establish and maintain permanent credential records of STCC students and alumni and to conduct follow-up studies of graduates. The placement service seeks to assist students and alumni in attaining positions which will best utilize their education, training, experience and abilities.

AFRO-AMERICAN RESOURCE CENTER

The Afro-American Resource Center contains the Minority Career and Afro-American libraries and minority student activities office. The following is a brief description of the components and services provided by the Afro-American Resource Center.

Minority Career Library - The Minority Career Library contains a listing of employment opportunities; summer internships, scholarships and career opportunity programs sponsored by various colleges, professional organizations and government agencies. The majority of scholarships, internships, etc. are designed to encourage and assist minorities to enter engineering and other careers that have traditionally had an underrepresentation of minorities. Also available are multi-media aids to assist minority students in writing resumes, cover letters, and preparing for job interviews. The Minority Career Library contains catalogs and other information on the historically Black colleges. Career and placement counseling is provided as a service of the Afro-American Resource Center.

Afro-American Library - A growing library of Afro-American books and periodicals. All books are available for short term loan. The Center subscribes to many of the current Black periodicals.

Minority Students Activities - The planning and implementing of a variety of educational, cultural, and social activities to meet the unique needs of Afro-American students.

Recruitment/Outreach - Planning and implementing of innovative recruitment projects to increase the enrollment and retention of minorities.

The Afro-American Resource Center also serves as a lounge/study for Afro-American students. It is located in the first floor lobby of Building 20, Room 100. The director is Mr. Al Carter.

STUDENT INFORMATION POST

The Student Information Post, located on the ground floor of Building 20, provides information on parking, school functions, building locations, other colleges, and financial and tutoring assistance. The S.I.P. staff can refer students to Day Care Centers, Alcoholic Counseling Centers and Mental Health facilities. S.I.P. works in association with the Student Drop-In Center located in Building 27, first floor. The Student Information Post is operated daily from 8 a.m. to 3 p.m. The Drop-In Center is open from 8 a.m. to 4 p.m.

ATHLETICS

Intercollegiate athletics are an integral and prominent part of STCC's educational objectives. Sports are seen here as vital and beneficial activities. The Department of Athletics sponsors the following varsity sports for men: soccer, basketball, hockey, golf and baseball. For women: volleyball, basketball, and softball are offered on an intercollegiate level.



The STCC athletic program fosters inter-collegiate sports suited to its present size with an eye to our needs of the future. Participation is open to any full-time student in good academic standing. STCC is a member of the Massachusetts Community College Athletic Association which consists of the 15 state community colleges divided into two divisions:

Eastern	Western
Massachusetts Bay	Quinsigamond
Northern Essex	Greenfield
North Shore	Springfield Technical
Massasoit	Mt. Wachusett
Roxbury	Holyoke
Cape Cod	Berkshire
Bristol	Middlesex
Bunker Hill	

Intramural athletics for all students, regardless of skill and experience, are held in touch football, basketball, bowling and softball. The College offers a full and varied women's sports program including bowling, volleyball, softball and gymnastics. Our intramural programs offer an opportunity for wide participation by all members of the student body.

STUDENT ACTIVITIES

Specific information on Student Activities can be found in the STCC Student Handbook.

COLLEGE BOOKSTORE

The college bookstore, located on the ground floor of Building 20 in the south wing, is open every school day from 8:30 a.m. to 3 p.m. It is also open evenings for the convenience of Continuing Education students. Books, school supplies, equipment for course work, as well as miscellaneous items are offered for sale, and used books are offered at discount prices. In addition, students can purchase their class rings, rent caps and gowns, and arrange for magazine subscriptions and film developing at discount prices.

AWARDS

At Commencement, awards are given to graduating seniors who have achieved a 4.0 Quality Point Average.

An Honors Convocation is held the Thursday before Commencement with awards and scholarships being given to those students whose academic records in their department are outstanding and to those who have contributed significantly to the total college community through their extra-curricular participation. These awards are:

Achievement Awards in Allied Health Sciences
 Association of Business Students Scholarship Award
 Bilingual Scholarship Award
 Bilingual Secretary of the Year
 Business Administration Outstanding Achievement Certificate for Excellence in Mental Health Award
 Clinical Proficiency Award
 Division of Nursing Faculty Award
 Dr. John J. Ferri & Joseph J. Ferri Award

Edmond P. Garvey Award
 Elizabeth C. O'Leary Memorial Award (Nursing)
 Excellence in Microbiology
 Excellence in Anatomy and Physiology
 Excellence in General Biology
 Executive Secretary of the Year
 Golden Scaler Award (Dental Hygiene)
 Helen Post Memorial Award
 History Department Book Awards
 Humanities Awards
 Isabell V. Kendrick Award
 John A. O'Leary Award (Nursing)
 Legal Secretary of the Year
 Lucille Goodson Parks Award
 Medical Secretary of the Year
 Mercy Hospital Award
 Minority Talent Roster for Outstanding Minority Community College Students
 New England Telephone Company Awards to Bilingual Secretarial Students
 Outstanding Academic Achievement Awards
 Outstanding Achievement in Mental Health Award
 Outstanding Student in Liberal Arts Transfer
 President's Citation
 President's Cup
 Robert C. Geitz Award for Engineering Excellence
 Shorthand Proficiency Awards
 STCC Alumni Scholarships
 Teresina B. Thompson Award
 Typing Production
 Who's Who Among Students in American Junior Colleges

PARKING

Each year the College attempts to secure a maximum number of parking spaces in the general area of the campus for student parking and in September the College publishes an updated list of independent parking areas located in the general vicinity of the campus. It should be noted that these lots are not controlled by the College and any arrangements in regard to cost will have to be worked out between the student and the owner of the lot. Please refer to the separate booklet "Traffic Rules and Regulations" available in the Dean of Student Services Office.

INSURANCE

The Commonwealth of Massachusetts requires each student to purchase through the College an accident insurance policy for a minimum charge. Optional plans under this policy may be purchased to provide hospitalization and twenty-four hours protection. Information about insurance will be sent to each admitted student. Careful consideration should be given to the additional coverage available. The cost is quite reasonable for the amount of coverage under the "optional" plan.

MEDICAL AND EMERGENCY HEALTH SERVICE

Every student while on campus may seek the counsel and professional advice of the college nurse who has an office on the first floor of Building 27, Room 101. The nurse is on duty every school day from 8 a.m. until 4 p.m. Her private phone is 781-7822, extension 3510. Wesson Memorial Hospital is located one block from the STCC campus. In case of any emergency, the number to call is 787-2562, Wesson Emergency.

THE COMMONWEALTH TRANSFER COMPACT

Students planning to transfer to a four-year college or university, particularly a public one, in Massachusetts may find the Commonwealth Transfer Compact most helpful in receiving the maximum award of transfer credit toward a baccalaureate degree.

The Massachusetts Board of Regional Community Colleges endorsed the Commonwealth Transfer Compact, in May, 1974, to facilitate student mobility in Massachusetts public higher education. A number of private colleges in Massachusetts generally adhere to its provisions.

.

THE COMPACT

The Compact guarantees that a student who fulfills the course distribution requirements stipulated in the Compact and holds an A.A. or A.S. degree from a Massachusetts community college and who subsequently transfers to a four-year public institution in Massachusetts will be awarded:

- (1) at least 60 semester hours of work toward a baccalaureate degree and
- (2) at least 33 credit hours toward fulfillment of the General Education (core) requirement.

Further, the associate degree holder who is accepted for transfer under the Compact will be subject to no special requirements beyond those specified as major department and/or graduation requirements for students who originally enrolled in the four-year institution as freshmen.

An associate degree which is transferable as a unit (contingent upon acceptance for admission) under this policy is defined as the equivalent of at least 60 hours of undergraduate college-level study, including:

- a. 6 hours of English/communications
- b. 9 hours of behavioral/social sciences
- c. 9 hours of humanities/fine arts
- d. 9 hours of mathematics/sciences
- e. the remaining credits to be on a college level.

These courses may be found in this Catalog by referring to the Course Number Index under the following prefixes:

ENGLISH/COMMUNICATIONS

LE - English

BEHAVIORAL/SOCIAL SCIENCES

NE - Economics
NH - History
NI - Political Science
NP - Psychology
NS - Sociology/Anthropology

HUMANITIES/FINE ARTS

LA - Art
LF - Foreign Languages
LM - Music
LX - Philosophy

MATHEMATICS/SCIENCES

MB - Biological Sciences
MC - Chemistry
ME - Engineering Sciences
MM - Mathematics
MP - Physics



DIVISION OF CONTINUED EDUCATION

Springfield Technical Community College offers through its Division of Continuing Education a wide range of offerings to meet local, social, economic, cultural, and civic needs. These offerings may be credit or non-credit, depending upon individual preference.

The Division of Continuing Education also fosters associations with various groups and organizations within the relatively large urban region served by the College. From time to time, conferences, institutes, and seminars are offered by the Division for those people in the region who have evidenced an interest in a particular subject or discipline. The offerings are carefully selected to meet predetermined community and individual needs.

Many times programs of instruction are generated by the employment picture persisting in the Springfield area. Employers themselves often instigate the development of new courses and programs in collaboration with the College. College personnel constantly seek out new and developing areas requiring assistance from the school in the form of complete two-year technical programs, vocational preparatory courses lasting from several days to a year or more in length, and short vocational courses designed to upgrade the working person's skills. From these efforts a constantly expanding technical and career program base is developed, supplemented by special activities to serve both the short range and recurring needs of the community.

The Division of Continuing Education operates on a self-sustaining basis, according to the General Laws of the Commonwealth, designed to meet the needs of the community for higher education. As the program has developed it offers:

1. Continuing education for adults, on both credit and non-credit basis, in general and specialized educational fields;
2. The opportunity to earn credit toward the associate degree, enabling the student to:
 - a. enter or re-enter the College as a full-time student;
 - b. complete degree requirements;
 - c. matriculate in the evening session and summer session.

The Division of Continuing Education will assist students to pursue their educational objectives in every way possible. Courses offered include: (1) freshman credit courses, for which a high school diploma (or its equivalent) is required; (2) advanced credit courses, requiring certain freshman prerequisites; (3) non-credit courses; (4) freshman courses as part of a program to provide entrance to the College as a full-time student.

These offerings are designed to furnish opportunities to: (1) resident students of Springfield Technical Community College to supplement the work of the regular college year by additional elective courses; (2) students of other colleges and universities to take courses for credit transferable to their resident college; and (3) high school students who wish to remove academic deficiencies before entering college in September. The offerings also seek to furnish an opportunity for intellectual pursuit and continuing education to those who may not wish to work for a college degree or who may already have one.

The two semesters of the Division closely correspond with the calendar of the day college. The evening session offers a balanced selection of courses in the principal areas of study offered by the College. Academic standards are the same as in the day program.

Any credit course in the Division of Continuing Education may be taken for no credit (NC) at the regular rates applying to credit courses. Non-credit courses do not qualify for federal financial aid.



COURSES OF STUDY

ACADEMIC PROGRAMS

In an attempt to provide the most comprehensive variety of educational experiences and match these with the specific needs of the individual student, the College offers many academic programs. In the main, these fall into four categories: College transfer programs, career programs, cooperative education program and student development.

TRANSFER PROGRAMS

The transfer curricula are designed for students who plan to transfer to a senior college or university after completion of one or two years at STCC. The courses offered in these curricula are generally those required to provide a broad educational background before beginning specialization in a major field of study. A high quality of academic achievement, revealing seriousness of purpose and of sound habits of study, is the most important qualification for successful transfer.

Three transfer programs are offered at Springfield Technical Community College:

1. Business Administration
2. Engineering and Science
3. Liberal Arts and Sciences

Many students attending the College consider, at some point in their career, transferring to a four-year institution. There are numerous specific programs at STCC that are designed with that purpose in mind. Students enrolled in these programs should be in early and constant contact with a transfer counselor so that their course progress toward transferring to a four-year institution is expedited. Springfield Technical Community College is a member of the Commonwealth Transfer Compact. With some limitations, an Associate Degree from STCC will be honored as a unit toward transfer to a state university or college. Further information relative to transfer from specific programs is available from the College's transfer counselor.

CAREER PROGRAMS

STCC offers a variety of Career Programs that are designed primarily for the individual seeking two years of higher education and immediate job opportunities upon graduation. Such Career Programs are available in the Engineering Technologies, Medical Health Services, Business Administration and Community Service Technologies.

Each of the Career Programs offers a two-fold objective. The student receives a general education background to provide him/her with a better understanding of the community around him and a technical preparation designed around a specific occupation.

Career students who plan to continue their education beyond the two year level are advised to consult with their college counselor early in the program.

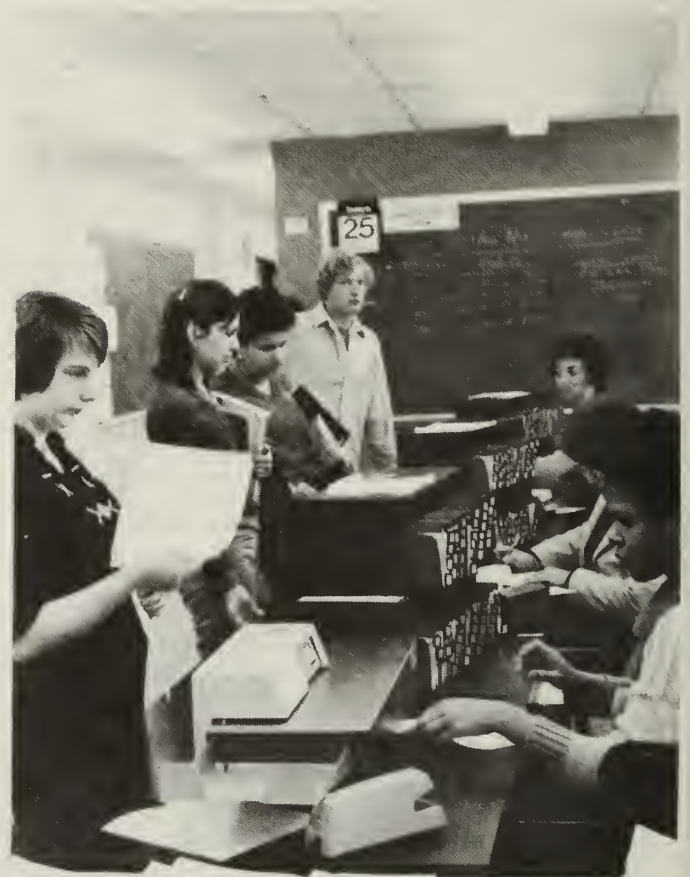
THE CAREER-RELATED JOB PROGRAM

The Career-Related Job Program provides our students (through the cooperation of Greater Springfield employers) with a realistic work experience within their major field of study.

The program is open only to seniors at the present time, and offers many advantages to participating students. In addition to being a tremendous supplement to classroom training, the program allows the student to learn excellent work habits and to acquire valuable skills many months prior to graduation.

Wage scales are established by the employer, and the participating employers also provide the school with an evaluation of the participating student's work.

The Career-Related Job Program is another tremendous example of the economic linkage between Springfield Technical Community College and the Greater Springfield community.



INDIVIDUAL LEARNING CENTER - MATHEMATICS

The Individual Learning Center offers a curriculum which includes Basic Arithmetic, Elementary Algebra, Advanced Algebra and Trigonometry.

Through the use of audio and video tapes and programmed textbooks, a student may proceed at a rate which is commensurate with his or her ability.

Additional assistance is provided by mathematics professors who are assigned to Individual classrooms in the Center, and by student tutors who are also assigned to the Center. In addition to the regularly assigned classroom hours, a student may use the facilities of the Center any time that space is available.

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

CURRICULA OF THE COLLEGE

HEALTH/HUMAN SERVICES

Cosmetology
Dental Assisting
Dental Hygiene
Emergency Medical Technician
Gerontology
Human Services Associate
Medical Assistant
Medical Laboratory Technician
Nuclear Medicine Technician
Nursing
Physical Therapist Assistant
Radiation Therapy
Radiologic Technology
Respiratory Therapy
Surgical Technology

BUSINESS ADMINISTRATION/ DATA PROCESSING/OFFICE SYSTEMS/SECRETARIAL SCIENCES

Accounting
Bilingual Secretarial
Business Transfer
Clerical Office Assistant
Court Stenography
Data Processing
Executive Secretarial
Finance
General Business
Legal Secretarial
Management
Marketing
Medical Secretarial
Word Processing Management

LIBERAL ARTS AND SCIENCES

American Studies
Early Childhood Education
General Studies
Law Enforcement/Criminal Justice
Liberal Arts Transfer
Modern Studies

ENGINEERING TECHNOLOGIES

Advanced Metals Machining Technology
Automotive Technology
Bio-Medical Instrumentation Technology
Civil Engineering Technology
Computer Maintenance Technology
Drafting and Design Technology
Electrical Technology
Electro-Mechanical Technology
Electronic Benchwork Technology
Electronic Technology
Environmental Technology
Facilities Maintenance Engineering for High Technologies 1
Fire Protection and Safety Technology
Graphic Arts Technology
Heat/Power/Air Conditioning Technology
Instrumentation Technology
Landscape/Plant Science Technology
Laser Electro-Optics Technology
Machine Design Technology
Occupational Safety and Health Technology
Solar Energy: Option to Heat/Power/Air Conditioning Technology
Telecommunications Technology

ENGINEERING & SCIENCE TRANSFER

Engineering Transfer*
Chemical
Civil
Electrical
Environmental
Industrial
Mechanical
Science Transfer*
Biology
Chemistry
Mathematics
Physics
Pre-Dental
Pre-Engineering
Pre-Medical
Pre-Veterinary

* (Degree awarded is A.S. in Engineering or A.S. in Science. Students may concentrate in the subject areas listed.)

1 Approved under the title "Facilities Engineering Technology" by the M.B.R.C.C. and the M.B.H.E

VETERANS INFORMATION

DAY STUDENTS

All veterans eligible to receive V.A. benefits must contact the Office of Veterans' Affairs upon receiving their acceptance letters. All returning veterans receiving V.A. benefits must contact the Veterans' Office after registration for the upcoming semester. Registering with the School does not certify an eligible veteran for V.A. benefits for the upcoming semester. All eligible veterans must contact the Veterans' Office in person to initiate enrollment certification.

EVENING STUDENTS

The following are the procedures to be followed by veterans eligible to receive V.A. benefits:

1. academic counseling is required before payment of tuition and fees,
2. paid receipt to confirm enrollment must be brought to the Office of Veterans' Affairs to initiate enrollment certification.

NOTE: All veterans receiving V.A. benefits must contact the Office of Veterans' Affairs upon withdrawing from a course or terminating enrollment, changing an address, changing dependent status or changing an academic program.

All veterans should contact the Financial Aid Office to investigate eligibility for Federal and State grants and scholarships.

ACADEMIC STANDING

The quality point index required to maintain acceptable academic standing in an approved program of study in either the Day School or the Division of Continuing Education is as follows:

Beginning of the second semester of enrollment, a quality point average of 1.5.

Beginning of the third semester of enrollment, a cumulative quality point average of 1.7.

Beginning of the fourth semester of enrollment, a cumulative quality point average of 1.9.

For Continuing Education purposes, the completion of 12 semester hours will be considered the completion of a semester.

Students receiving benefits from the Veterans Administration are advised that if their quality point average does not permit them to remain in a program, they may continue to attend Evening Division courses at their own expense until their average allows them to re-enter the program.

Veterans are cautioned that the V.A. will not provide benefits to repeat a course which has been previously passed, nor will they support courses which do not meet the requirements for an approved program of study.

Students receiving benefits from the Veterans Administration are advised that benefits will be extended only for the normal length of time that an approved program is designed to encompass. Full-time students must complete Associate Degree Programs in two years. Part-time students will receive reduced benefits for the extended period of time necessary to complete their program of study. Specific questions about benefits, program approval and eligibility will be answered by the V.A. Office on campus.

ADD/DROP LIMITATION AND PENALTIES

A student may add or drop a course within one week of the last registration day in either the Day School or the Division of Continuing Education without penalty. (Refer to page 10). The final date for adding a course is two weeks from the first day of classes.

GRADING PROCEDURE AND UNSATISFACTORY GRADES

STCC makes use of a scale from "A" to "F" converted into quality points which are utilized in formation of a cumulative average. A grade of "F" equals 0 quality points and is unsatisfactory. A "D" equals .07 and may count toward a degree if the quality point cumulative average is maintained with respect to degree specifications. (Refer to page on Minimum Prerequisites for Admission.) The Veterans Administration does not authorize benefits for courses which are audited or challenged. A withdrawal or termination from a course could constitute an overpayment for the veteran.

WITHDRAWAL AND ABSENCES

All students are required to notify the registrar of withdrawals or terminations. Veterans receiving benefits must also contact the Office of Veterans' Affairs. Attendance procedures are at the discretion of the faculty.

Students receiving Veterans Administration benefits will be considered to be making satisfactory progress in each course each semester at the following intervals:

1. if their name appears on the official class list certified by the instructor at the end of the official add/drop period.
2. if they receive a mid-semester grade.
3. if they receive a final grade.

In the event any of 1. through 3. does not occur, the V.A. will be notified within 30 days after the enrollment report or grade report has been issued that said veteran is not enrolled in the course.

Faculty members may request the Dean of Students to withdraw a student for excessive absences.



Health/Human Sciences



COSMETOLOGY

The science of Cosmetology has shown rapid technological changes in recent years and continues to offer exciting career opportunities. One of the attractive features of cosmetology as a career is the relatively brief time it takes to become a licensed operator. To be eligible to take cosmetology, a student must be a high school graduate; sixteen (16) years of age or older, with a satisfactory medical report. Upon successful completion of one thousand (1000) hours of training in a 9-month period required by the Massachusetts Board of Cosmetologists, the student is ready to take the National Board Examination. To qualify for a license, the cosmetologist must pass an examination in both theory and practice.

Cosmetologists provide a variety of beauty services, most of which are related to the care of hair and skin.

Minimum Grade Requirement: A student must maintain a minimum grade of C (73%) in each cosmetology course in order to qualify for graduation. Students must complete a minimum of one thousand (1000) hours of classes in addition to maintaining a minimum grade level of "C". If a student fails to meet the attendance requirement, she/he may be dropped from the program.

Course AC102 is a prerequisite of Course AC103. Course AC103 is a prerequisite of Course AC202. If a student fails Lab Course AC 102L or AC 103L, she/he cannot continue the second semester with course AC 201L or AC 202L. Courses AC 201L and AC 202L are Lab courses where students practice their techniques and procedures on patrons; therefore, it is necessary for the student to pass his/her basic courses (AC102L or AC103L) before working on patrons. However, if a student fails either course AC102L or AC 103L, she/he may reapply for the following Fall Semester. In this case the Mass. Board of Registration of Cosmetologists must be notified. Upon successful completion of requirements for this program, as listed below, a Certificate in Cosmetology will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
AC 100	Beauty Salon Management	3		3
AC 101	Prin. of Cosmetology Theory	3		3
AC 102	Fund. of Applied Cosmetology 1	1	14	8
AC 103	Fund. of Applied Cosmetology 2	1	14	8
		8	28	22

SEMESTER 2

MP 109	Human Relations at Work 3	3		3
AC 200	Basic Dermatology	3		3
AC 201	Supervised Lab Prac. 1	1	14	8
AC 202	Supervised Lab Prac. 2	1	14	8
		8	28	22

AC 100 - BEAUTY SALON MANAGEMENT 3 credits

A basic course dealing with the fundamental principles and techniques underlying the managerial process in small business management. Topics include beauty salons, recordkeeping, shop furnishings, inventory control, advertising, telephone techniques and personnel policies. Case study and problems are part of the course.

Offered Fall Semester

AC 101 - PRINCIPLES OF COSMETOLOGY 3 credits

The cosmetologist must know how the body is constructed as a basis for the application and understanding of her art. This course includes the study of bones, muscles and nerves of the cranium, face, neck, hand and arm, together with the vascular system. Since personal hygiene is of special significance in the work of cosmetologists, the importance of good grooming, posture and nutrition is stressed.

Offered Fall Semester

AC 102 FUNDAMENTALS OF APPLIED COSMETOLOGY 1 8 credits

For the first part, the student learns the techniques and procedures of styling (pin curling, finger waving) hair cutting, shampooing, manicuring, arching, scalp treatments and facial manipulations. The student also learns to use some of the elements of science in her practical work, to develop judgement in the use of tools, equipment and materials, and to take precautions to safeguard her own health and that of her patrons through sanitation and sterilization. A passing grade of "C" is required in this course to qualify for course AC 201.

Offered Fall Semester

AC 103 FUNDAMENTALS OF APPLIED COSMETOLOGY 2 8 credits

Another phase of work that first requires the knowledge of techniques and procedures is permanent waving, chemical hair relaxing and hair coloring. Lectures, demonstrations and experiments are used with a portion of the time devoted to student practice. A passing grade of "C" is required in this course to qualify for course AC 202.

Offered Fall Semester

AC 200 - BASIC DERMATOLOGY 3 credits

An introduction to Cosmetic Chemistry and skin and hair analysis is necessary in facial and scalp treatments. Basic knowledge in the classes of disease, allergies, terminology, primary and secondary lesions, diseases of scalp, glands, and abnormalities of nails.

Offered Spring Semester

AC 201 - SUPERVISED LAB PRACTICUM 1 8 credits

This course is a continuation of course number AC 102. Practical experience is gained as a result of students working on each other and patrons under direct supervision. The various types of facials appropriate for different types of skin are studied thoroughly. PREREQUISITE: AC 102

Offered Spring Semester

AC 202 - SUPERVISED LAB PRACTICUM 2 8 credits

This course is a continuation of course number AC 103 involving role-playing by the students in a laboratory setting under direct supervision of the instructor. In this course the student learns the art of thermal waving hair.

Offered Spring Semester

DENTAL ASSISTING

The Dental Assisting department strives to educate students in all phases of dental assisting, including chairside, business and laboratory procedures. Preparation is accomplished through lectures, seminars, laboratory and clinical sessions. In addition to the course of study, a clinical-affiliation program is offered in conjunction with the cooperation of area dentists. This clinical training is conducted off campus in various dental offices in the area.

Applicants must have an academic background in English, Biology (with a lab), Mathematics and Typing. The Scholastic Aptitude Test (SAT) must be taken and a score totaling 800 must be achieved. Prospective students are also expected to take the Dental Assisting Aptitude Examination. A college preparatory course in high school and an average academic rank in the upper 1/2 of the graduating class are also necessary. A personal interview with the department chairperson is required.

The Dental Assisting Program has two primary objectives: to prepare the student for employment as a professional member of the dental team functioning as a competent dental assistant after graduation and to prepare and motivate students to continue their dental education by obtaining a degree in dental hygiene, or a baccalaureate degree. Advanced degrees will enable the qualified student to participate in broader areas of the dental profession. The Dental Assisting curriculum conforms to the standards that are required by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs. Students who successfully complete the Dental Assisting Program graduate with a Certificate in Dental Assisting and are eligible to take the Dental Assisting Certification Examination.

The minimum grade requirement for the Dental Assisting Program is a grade of "C" (2.0) in each course. Upon the successful completion of requirements for this program, as listed below, a Certificate in Dental Assisting will be awarded.

SEMESTER 1

NO.	COURSE TITLE	Class	Lab	Credits
LE 100	English Composition 1	3		3
BM 125	Microbiology for Dental Assistants	1		1
MB 134	Bio.Sys.for Dental Asst.	1		1
AD 100	Dental Asst.Techniques 1	2	2	3
AD 101	Dental Sciences 1	3		3
AH 301	Dental Materials 1	2	4	4
AH 102	Dental Radiology 1	1	2	2
AD 102	Dental Anatomy	2		2
		<u>15</u>	<u>8</u>	<u>19</u>

SEMESTER 2

LE 203	Fundamentals of Speech	3		3
NP 100	General Psychology	3		3
AD 200	Dental Asst.Techniques 2	2	2	3
AD 210	Dental Sciences 2	3		3
AD 202	Dental Records	2		2
AD 203	Dental Radiology 2		2	1
AD 204	Clinical Affiliation		19	5
AD 205	Seminar in Dental Asst.	1		1
		<u>14</u>	<u>23</u>	<u>21</u>

AD 100 - DENTAL ASSISTING TECHNIQUES I

3 credits

This course is primarily designed to educate the student in the proper identification, care, and use of all types of dental equipment and instruments. As the student progresses, he/she will have a working knowledge of tray set-ups and instrument sequencing for each dental procedure to enable the student to utilize 4-handed chairside assisting effectively. Aseptic techniques, including an understanding of the principles of microbiology and sterilization are emphasized in this introductory course. In addition, dental terminology and charting procedures will be discussed.

Offered Fall Semester

AD 101 - DENTAL SCIENCES I

3 credits

This course is primarily designed to educate the student in all phases of diet, nutrition, and oral health. It is intended to familiarize the student with basic nutritional deficiencies and oral manifestations that the patient may experience as a result of his/her dietary habits. Also covered in the course are the principles of nutritional counseling. As the student progresses, he/she will have a working knowledge of the techniques of counseling patients according to their specific dietary and oral health needs. In addition, the various techniques of oral physiotherapy will be discussed.

Offered Fall Semester

AD 102-ORAL ANATOMY

2 credits

Study of the anatomy, embryology and history of oral structures with emphasis on deciduous and permanent dentitions including morphology, eruption, function and occlusion.

Offered Fall Semester

AD 200 - DENTAL ASSISTING TECHNIQUES II

3 cr.

A continuation of the first semester, this course seeks to advance the skill and dexterity of the student in all techniques. There is a coordination of activities in an effort to combine efficient chairside performance with general dental assisting tasks. The student will also receive lectures on ethics and jurisprudence as they pertain to the practice of dentistry. Guest speakers will be utilized to help the instructors relate this information to the student.

Offered Spring Semester

AD 201 - DENTAL SCIENCE II

3 credits

A continuation of the first semester, this course is designed to familiarize the student with medical findings and emergencies in the dental office. This course will also enhance the student's knowledge of medications and the disease entities related. The student will be required to take and pass a certified CPR course to be offered in conjunction within this realm of study. In addition, major pathological conditions that may occur in the oral cavity will be explored.

Offered Spring Semester

AD 202 - DENTAL RECORDS

2 credits

This course is primarily designed for the dental assistant. Included will be basic business procedures which are essential to the effective management and control of the dental office. Business skills are reviewed and developed for practical application in the office. In addition, procedures in filing, banking, billing, managing the appointment book, organizing a preventive recall system, insurance, tax forms, and all types of financial transactions which might be found in the dental practice will be explored.

Offered Spring Semester

AD 203 - DENTAL RADIOLOGY II

1 credit

This laboratory course in dental radiology offers practice in the techniques of exposing, processing, mounting, and interpretation of full-mouth and bite-wing radiographs through the utilization of the bisecting and paralleling techniques. The use of simulated exercises and clinical practice on patients will aid the student in developing the proper radiographic techniques within the dental setting.

Offered Spring Semester

AD 204 - CLINICAL AFFILIATION

5 credits

Since the college does not have a dental school with which to affiliate, this portion of the student's training is accomplished through the continued interest and cooperation of our area dental society. At this time, the student should be able to expand his/her dental assisting education and improve his/her skills and techniques under the direct supervision of the dentists, clinical instructors and local hospitals.

Offered Spring Semester

AD 205 - SEMINAR IN DENTAL ASSISTING

1 credit

This course is designed to familiarize the student with the eight dental specialties that are found in dentistry. This is accomplished through lectures and presentations by guest speakers who are qualified in their respective fields.

Offered Spring Semester

AH 102 - DENTAL RADIOLOGY I

5 credits

A survey of dental radiology, this course includes theoretical background of techniques of exposure, processing, recognition of dental structures and the principles of radiographic interpretation. Panoramic radiography is introduced.

Offered Fall Semester

AH 301 - DENTAL MATERIALS I

4 credits

The chemical, physical and manipulative properties of common materials used in dentistry are studied. Attempt is made to correlate the major specialties in dentistry. The role of the dental auxiliary in the manipulation and application of these materials is stressed.

Offered Fall Semester



DENTAL HYGIENE

The Dental Hygiene program educates men and women to become vital members of the dental health profession. The two-year basic core curriculum leading to an Associate degree follows the guidelines adopted by the American Dental Association's Commission on Dental Accreditation. The graduate is eligible for licensing examination in each of the fifty States. She/he may transfer credits towards a Baccalaureate degree.

The curriculum is designed to provide the student a broad educational experience. The student is thus prepared to render preventive oral health services and dental health education. Students receive clinical experience, not only at the S.T.C.C. Dental Hygiene Clinic, but also through assignments to clinical and educational facilities within Hampden County. Assignments are supervised by S.T.C.C. faculty. Students are responsible for providing their own transportation to clinical and educational facilities.

All courses listed in the program curricula are required for graduation. The dental hygiene courses are restricted to the semester in which they appear in the curricula. The curriculum customarily is completed within two regular academic years. However, advanced placement will be given to those students qualifying through challenge exam and transfer credits.

Applicants must have an academic background in biology, chemistry and mathematics. The Scholastic Aptitude Test (SAT) must be taken and scores totaling 900 must be achieved. The Dental Hygiene Aptitude test must also be taken. A college preparatory course in high school and academic rank in the upper 1/4 of the graduating class are also necessary. Students must achieve a minimum grade of "C" (73%) or better in each Dental Hygiene course. In addition, students must attain a minimum grade of C (73%) or better in related science or general studies courses.

Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Dental Hygiene will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 132	Anatomy & Physiology 1	3	2	4
MB 140	Biochemistry	3		3
AH 100	Oral Anatomy 1	2	2	3
AH 101	Clinical Practice 1	2	6	5
AH 102	Dental Radiology	1	2	2
		14	12	20

SEMESTER 2

MB 121	Microbiology	3	3	4
MB 323	Anatomy & Physiology 2	3	2	4
AH 200	Nutrition	2		2
AH 201	Oral Pathology	2		2
AH 202	Clinical Practice 2	2	8	6
AH 203	Oral Anatomy 2	2		2
		14	13	20

SEMESTER 3

NP 100	General Psychology	3		3
AH 300	Periodontology	2		2
AH 301	Dental Materials	2	4	4
AH 302	Pharmacology	2		2
AH 303	Clinical Practice 3	2		2
		11	4	19

SEMESTER 4

LE 203	Fundamentals of Speech	3		3
NS 100	Intro. to Sociology 1	3		3
AH 400	Community Dental Health	3		3
AH 401	Clinical Practice 4	2	12	8
AH 402	Applied Dental Auxiliary Skills	1	2	2
		12	14	19

AH 100 - ORAL ANATOMY 1

3 credits

Study of the anatomy, embryology and histology of oral structures with emphasis on deciduous and permanent dentitions including morphology, eruption, function and occlusion.

Offered Fall Semester



AH 101 - CLINICAL PRACTICE 1

5 Credits

Lectures and preclinical laboratory sessions are presented to introduce the etiology and prevention of dental diseases, normal oral conditions and common deviations, theory and practice in specific clinical techniques in the practice of dental hygiene. Students must pass both theoretical components of the course in order to continue in the program.

Offered Fall Semester

AH 102 - DENTAL RADIOLOGY

2 credits

A survey of dental radiology, this course includes the theoretical background of techniques of exposure, processing, recognition of dental structures and principles of radiographic interpretation. Panoramic radiography is introduced.

Offered Fall Semester

AH 200 - NUTRITION 2 credits
Basic principles and concepts of nutrition studied with emphasis on relation to oral health, caries control and general health. Orientation to counseling techniques for diet modification in the practice of preventive dentistry. PREREQUISITE: MB-140

Offered Spring Semester

AH 201 - ORAL PATHOLOGY 2 credits
Introduction to the basic principles of disease pertaining to the head and oral structures will provide the background for recognition of such diseases within the scope of the dental hygienists practice and responsibility.

Offered Spring Semester

AH 202 - CLINICAL PRACTICE 2 6 credits
A continuation of Clinical Practice 1 with supervised clinical experience. The student will be introduced to advanced dental hygiene theory with special emphasis on the principles procedures and techniques applicable for the care of patients with special oral or general health problems. The student will be assisted to develop mental processes necessary to collect, analyze patient information, identify patient problems and thereby render improved dental hygiene services. Students must pass both the clinical and theoretical components of the course in order to continue in the program. PREREQUISITES: AH-101, AH-100

Offered Spring Semester

AH 203 - ORAL ANATOMY 2 2 credits
A continuation of Oral Anatomy AH-100 with emphasis on osteology, muscle function, blood supply and innervation. Concentration will be to enhance the application of anatomical principles and concepts to the practice of dental hygiene.

Offered Spring Semester

AH 300 - PERIODONTOLOGY 2 credits
This course is an introduction to periodontology, covering etiology, prognosis and treatment of the periodontally involved patient. Techniques of history taking and oral inspection will be discussed. The role of the dental hygienist in patient education and preventive dentistry will be stressed. PREREQUISITE: AH-100, AH-101.

Offered Fall Semester

AH 301 - DENTAL MATERIALS 4 credits
The chemical and physical properties of common materials used in dentistry are studied. Attempt is made to correlate the various materials to the principles and practices of the major specialties in dentistry. The role of the dental auxiliary in the manipulation and application of these materials is stressed.

Offered Fall Semester

AH 302 - PHARMACOLOGY 2 credits
Study of drugs and their effects on living tissues. Emphasis will be placed on the drugs which are utilized in dentistry. Dosage, physical and chemical properties and modes of administration will be considered. PREREQUISITES: MB-140, AH-100

Offered Fall Semester

AH 303 - CLINICAL PRACTICE 3 8 credits
A Course designed to enhance the comprehension of dental hygiene services and to apply basic sciences to the practice of dental hygiene. The students will learn to expand upon their basic skills in areas such as radiographic interpretation, restoration, recontouring and polishing, recognition and charting of periodontal diseases, patient motivation advanced hand instrumentation, and various sharpening techniques. The application of the theoretical background to the clinical techniques will enable students to provide better total patient care. Students must pass the clinical and theoretical components of the course in order to continue in the program. PREREQUISITES: AH-202

Offered Fall Semester

AH 400 - COMMUNITY DENTAL HEALTH 3 credits
A series of lectures and a coordinated field project designed to introduce the student to the dental needs of the community. Students propose, plan and participate in a community dental service project which is designed to assist a community organization with dental health care. Lectures are concerned with dental health education, epidemiology, dental public health, fluoridation and dental manpower.

Offered Spring Semester

AH 401 - CLINICAL PRACTICE 4 8 credits
A course designed to provide students with the theoretical background needed to perform advanced clinical procedures to function as a respected member or the oral health team in any dental practice setting, and to utilize higher level thinking to make decisions regarding patient care. Emphasis is placed on periodical therapy for dental hygienists, ethics, and jurisprudence in dentistry, application for employment, third party systems, appointment control and recall systems. Simulation exercises, role playing, reading and research in the field will enable the dental hygiene students to discover their personal ethics and values in dentistry so that they will be able to handle most situations in the dental environment. Students must pass both clinical and theoretical components of the course in order to continue the program. PREREQUISITES: AH-303

Offered Spring Semester

AH 402 - APPLIED DENTAL AUXILIARY SKILLS 2 cr.
This introductory course is designed to provide the dental hygiene student with an overall view of the various duties that may be within the performance realm of the dental hygienist. The course will provide the background information and introduce basic techniques to perform a wide variety of functions. Emphasis will be placed on those duties that are currently accepted within the state practice laws including rubber dam applications, placement and removal of periodontal dressings, suture removal, placement of temporary restorations and application of sealants.

Offered Spring Semester

EMERGENCY MEDICAL TECHNOLOGY

This program is designed for the person who responds to emergency calls to provide immediate care to the critically ill and injured and to transport the patient to a medical facility. It will develop his skill in determining the nature and extent of illness or injury and in establishing priorities for emergency care. It covers such topics as opening and maintaining an airway, cardiopulmonary resuscitation, controlling of hemorrhage, treatment of shock, immobilization of fractures, assisting in childbirth, management of mentally disturbed patients, as well as light rescue skills and extrication from entrapment.

State legislation mandates that all ambulance technicians be certified Emergency Medical Technicians. In addition to this preparation for national certification, students are prepared to give pre-hospital emergency care in the areas of industry, athletics, ambulance, rescue, and also assist hospital emergency room personnel. Two semesters of supervised clinical experience in cooperating agencies are provided during the senior year. Graduates are qualified to accept positions with ambulance services, hospitals, industries, and other allied health services.

Applicants must have the prerequisites of high school Chemistry and Biology or equivalent.

Minimum Grade Requirements: To continue in the progression of courses offered in the Emergency Medical Technology Program, a student must maintain a grade of "C" (73%) or better in the Sciences. E.M.T. 1, 2, 3, and 4 must be achieved in order.

Upon successful completion of requirements for this program as listed below, the degree of Associate in Science in Emergency Medical Technology will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 132	Anatomy & Physiology 1	3	2	4
LF 120	Cultural Spanish	3		3
NP 100	General Psychology	3		3
AE 100	EMT 1	2	2	3
		14	4	16

SEMESTER 2

LE 202	Technical Report Writing	3		3
MB 232	Anatomy & Physiology 2	3	2	4
AA 101	Programmed Medical Term.	3		3
AA 102	Health Science and Law	3		3
AE 200	EMT 2	2	2	3
		14	4	16

SEMESTER 3

NS 100	Sociology I	3		3
MB 121	Microbiology	3	3	4
	Elective (Social Science)	3		3
AE 300	EMT 3	2	12	8
		11	15	18

SEMESTER 4

	Elective (Social Science)	3		3
	Elective (Social Science)	3		3
AE 400	EMT 4	2	12	8
	Elective (Humanities)	3		3
		11	12	17

RECOMMENDED ELECTIVES

HUMANITIES

LE 200	English Composition
LE 203	Fundamentals of Speech
-----	Literature
LX 110	Introduction to Philosophy

SOCIAL SCIENCE

NP 300	Child and Dev. Psychology
NP 108	Human Relations at Work
NS 250	Sociology of the Family
NS 200	Social Problems
NP 320	Adolescent Psychology

AE 100 - E.M.T. - 1

3 credits

This introductory course will include the role of the emergency medical technician in the health field, legal aspects, topographic anatomy and the interpretation of diagnostic signs and triage.

Offered Fall Semester

AE 200 - E.M.T. - 2

3 credits

This course evolves around chest injuries, including the development of skills to enable the student to control bleeding and shock. Cardiopulmonary resuscitation, oxygen therapy and use of specialized equipment are included in this unit. PREREQUISITE: EMT 1-AE 100

Offered Spring Semester

AE 300 - E.M.T. - 3

8 credits

The emphasis in this course is on fractures, splinting and injuries to the skull, brain and abdomen. Medical emergencies and reaction to stress are included. Supervised observation in emergency rooms and third party observation on ambulance runs to further develop skills and techniques of patient handling and transport. The emphasis is on student competency and patient safety. PREREQUISITE: EMT 2-AE-200

Offered Fall Semester

AE 400 E.M.T. - 4

8 credits

This course is centered around environmental emergencies, patient handling and extraction, record keeping, patient transport, emergency driving, and traffic control. A module of obstetrical, gynecological and pediatric emergencies will be included. A continuation of supervised observation in emergency rooms, industrial emergency care, ambulance, rescue, and specialty areas, i.e. physical therapy with emphasis on sport injuries. PREREQUISITE EMT-3 AE 300

Offered Spring Semester

AA 102 - HEALTH SCIENCE AND LAW

3 credits

The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights, and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.

Offered Spring Semester

GERONTOLOGY

Since the elderly are currently the fastest growing segment of our population, there is an increasing demand for services and a growing need for trained personnel. The curriculum in Gerontology insures that each student has the required background, either to pursue a career or to continue advanced studies at a four-year institution. This will be accomplished by developing a broad base of knowledge drawn from traditional academic disciplines, as well as providing specialized training to effectively deliver services to the elderly.

Upon successful completion of the course of study, students will be prepared to work in areas such as: outreach services, community services, legal and housing services, nursing homes, municipal geriatric facilities, and state and local agencies on aging. Students who wish to continue their studies will be able to transfer into the Gerontology Program at the University of Massachusetts.

Minimum Grade Requirement: Students must achieve a minimum grade average of "C" (73%) in each of the following courses:

AT 100-Introduction to Gerontology
AT 200-Retirement & Family Adjustment
NS 300-Sociology of Aging
NP 330-Basic Principles in Psychology of Aging
AT 300-Plan/Del. of Comm. Serv. for Elderly
AT 400-Minority and Ethnic Elderly
NP 460-Introduction to Behavior Analysis
AT 401-Rehabilitative Approaches for Elderly

In addition, students must attain a passing grade in each related course included in the curriculum. Students planning to transfer to the University of Massachusetts must achieve an overall cumulative average of 2.5.

Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Gerontology will be awarded.

SEMESTER 1			
	Class	Lab	Credit
LE 100 English Composition I	3		3
NP 100 General Psychology	3		3
Lab Science	3	2	4
LF 120 Cultural Spanish	3		3
AT 100 Intro. to Gerontology	3		3
	15	2	16

SEMESTER 2			
LE 202 Technical Report Writing	3		3
NS 100 Sociology I	3		3
Lab Science	3	2	4
Elective Social Science or Humanities	3		3
AT 200 Retirement/Family Adj.	3		3
	15	2	16

SEMESTER 3			
NP 400 Normal/Abnor. Behavior	3		3
NS 300 Sociology of Aging	3		3
NP 330 Prin. of Psych of Aging	3		3
AT 300 Plan/Del of Comm Serv for Elderly	3	10	8
	12	10	17

SEMESTER 4			
LE 200 Comp. 2 English Lit. or Elective Literature	3		3
AT 400 Minority & Ethnic Eld.	3		3
NP 460 Intro. Behavior Analysis	3		3
AT 401 Rehab. Approaches/Elderly	3	10	8
	12	10	17

RECOMMENDED ELECTIVES:

LAB. SCIENCE

MB 102 Principles of Biology I
MB 202 Principles of Biology II or
MB 132 Anatomy & Physiology I
MB 232 Anatomy & Physiology II

HUMANITIES

NH 110 History of the United States; Bef. 1865
LX 110 Introduction to Philosophy
NI 100 American Government & Politics

LITERATURE -- Any College level literature course offered at STCC that is transferable.

SOCIAL SCIENCE

NP 300 Child Development Psychology
NP 320 Adolescent Psychology
NS 200 Social Problems
NS 250 Sociology of the Family

AT 100-INTRODUCTION TO GERONTOLOGY 3 credits
This course serves to familiarize the student, who is interested in pursuing a career in Gerontology, with the proposed field of study. Biological, physiological, psychological, and social aspects of the aging process are covered. Visits to area agencies which provide services to the elderly are used to augment classroom work. **Offered Fall Semester**

AT 200-RETIREMENT AND FAMILY ADJUSTMENT 3 credits
The general and specific problems related to retirement and family living for the older citizen are explored. Techniques for coping with reduced income, alternative uses of leisure time, and the intervention or prevention of feelings of disorientation during the disengagement process are reviewed from an intergenerational perspective. **PREREQUISITE:** AT 100 **Offered Spring Semester**

AT 300-PLANNING AND DELIVERY OF COMMUNITY SERVICES FOR THE ELDERLY 8 credits
This course is designed to familiarize the student with programs and resources available in the community for older citizens. Emphasis is placed on assisting elders in meeting financial, health, housing, education, social, and emotional needs within existing federal, state, and city organizational structures. The student will spend eight hours per week working in an agency dealing with elder services. Interns will keep a log of their activities, write reports, and attend a one-hour seminar each week directed by the faculty sponsor. **PREREQUISITE:** Intro. to Gerontology or permission of the instructor. **Offered Fall Semester**

AT 400-MINORITY AND ETHNIC ELDERLY 3 credits
A sociological examination of elders from diverse racial and cultural backgrounds. Particular attention is given to family structure, modes of interaction, prejudice, discrimination, and those problems unique to each subgroup. **PREREQUISITE:** Introduction to Gerontology. **Offered Spring Semester**

AT 401-REHABILITATIVE APPROACHES FOR THE ELDERLY 8 credits
This course introduces organic brain syndromes, language and communication disorders, and physical handicaps associated with increasing age. Emphasis is placed on assessment and treatment. Particular attention will be given to pro-

cedures to re-establish or maintain self-care skills to minimize premature dependence in the elderly.

This course provides field experience under professional supervision in an agency which offers rehabilitative services to elders. Student interns are required to work eight hours per week at the agency, keep a log of activities, and write reports. A one-hour seminar is held each week, directed by the faculty sponsor, to review and share experiences. Coping strategies are discussed. PREREQUISITE: AT 401 or taken concurrently.

Offered Spring Semester

NP 330-BASIC PRINCIPLES IN PSYCHOLOGY OF AGING

3 credits

The major psychological changes and resulting behavioral implications which take place normally with aging constitute the focus of this course. Emphasis is placed on personality, memory, intelligence, cognition, sexuality, and factors in longevity and survival. PREREQUISITE: General Psychology. Open to non-majors.

Offered Fall Semester

NP 460-INTRODUCTION TO BEHAVIOR ANALYSIS

3 credits

This course provides students with practical skills to deal with common behavioral problems effectively. This is achieved through an examination and implementation of basic learning principles. Active involvement in systematic observations, recording of behavior, and the application of behavioral procedures is expected. PREREQUISITE: General Psychology, Open to non-majors.

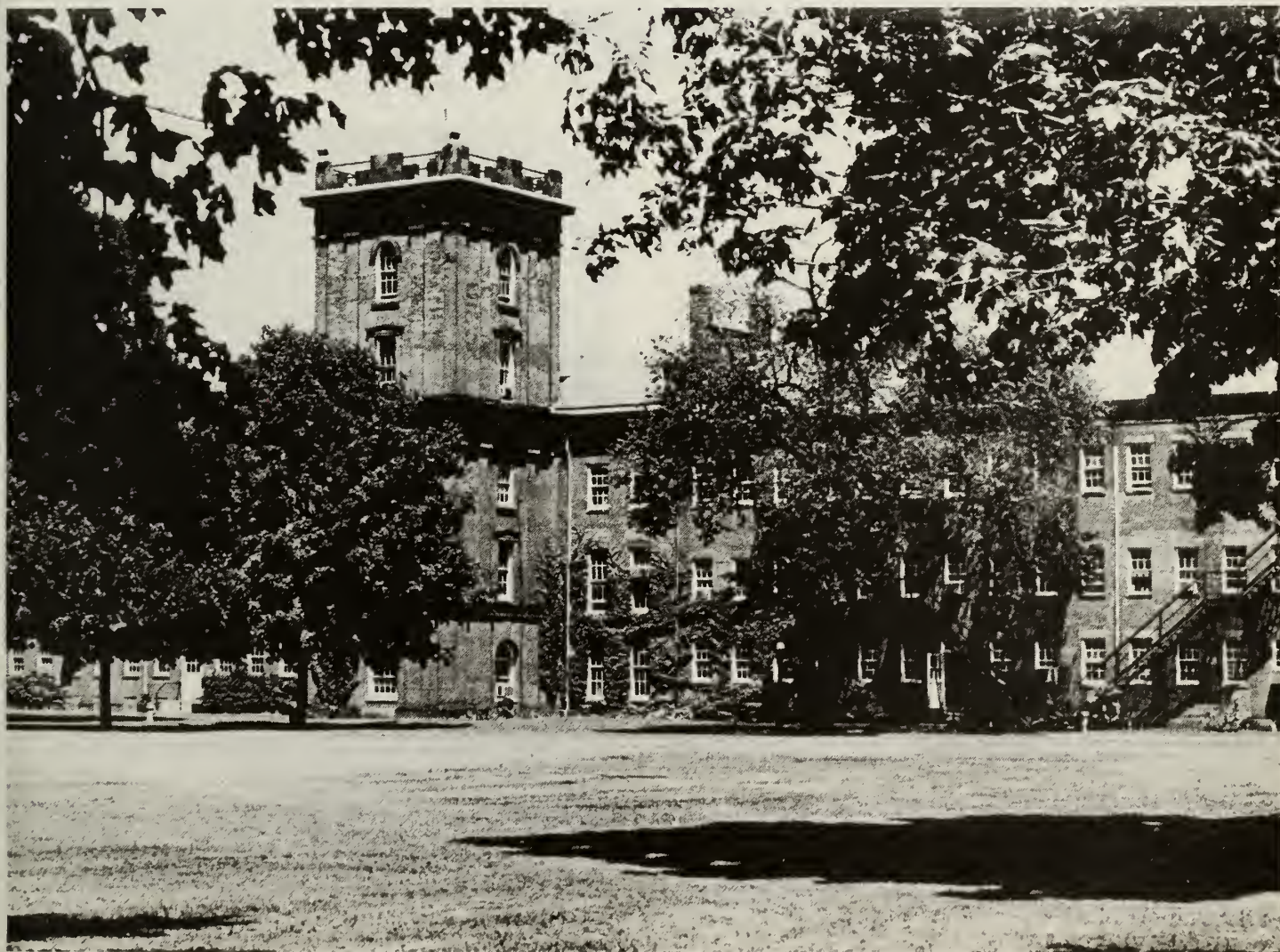
Offered Spring Semester

NS 300-SOCIOLOGY OF AGING

3 credits

This course examines aging as a social phenomenon in the United States. Topics include social factors in the aging process, statistical distribution and ecological conditions of aging, and economics, public policy and politics as they relate to old age. PREREQUISITE: General Sociology, Open to non-majors.

Offered Fall Semester



HUMAN SERVICES ASSOCIATE

While preparing a generalist to work with professionals in human services, the program emphasizes the importance of the multidisciplinary team. Qualified personnel, educated in the community college, can help meet manpower needs in a wide range of community services. These include mental health, mental retardation, public health, public welfare, social services, rehabilitation, education. Throughout the program, general education courses are coordinated with rotating supervised practicum in selected community service organizations. Students are provided opportunities to gain realistic experience in the provision of human services.

Curriculum option is available to prepare bilingual/bicultural generalists. Courses, paralleling those listed below, are offered in Spanish. Specific bilingual/bicultural instruction is scheduled on an individual basis. Minimum Grade Requirement: The Human Services student is required to earn a minimum course grade of "C" (73%) in each of the following courses: AM 100-Human Services 1; AM 200-Human Services 2; AM 300-Human Services 3; AM 400-Human Services 4. AM 301-Human Services Seminar 1; AM 401-Human Services Seminar 2.

A 2.0 or "C" average is required for other courses incorporated in the Human Services Associate Program. In order to meet this minimum grade requirement, the student is required to attend all scheduled classes and practicum assignments. The student will be presented with a contract stating requirements for each semester. This document is signed mutually by the individual student and the Department Chairperson.

Transfer students, having completed required courses prior to acceptance in the department, are encouraged to take appropriate electives. These schedules are established on an individualized basis, through mutual endeavors of the student, advisor and department chairman. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Human Service Associate will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 131	Human Anatomy 1	3		3
LF 120	Cultural Spanish	3		3
NP 100	General Psychology	3		3
AM 100	Human Services 1	3	4	5
		15	4	17

SEMESTER 2

	Elective (Humanities)	3		3
MB 231	Human Anatomy 2	3		3
	Elective (Social Science)	3		3
BZ 101	Typewriting 1	5		3
AM 200	Human Services 2	3	4	5
		17	4	17

SEMESTER 3

NS 100	Intro. to Sociology	3		3
AM 300	Human Services 3	3	12	9
AM 301	Human Services Seminar 1	3		3
AA 102	Health Science and Law	3		3
		12	12	18

SEMESTER 4

NO.	Course Title	Class	Lab	Credits
LE 202	Technical Report Writing	3		3
NP 400	Normal/Abnormal Behavior	3		3
AM 400	Human Services 4	2	14	9
AM 401	Human Services Seminar 2	3		3
		11	14	18

RECOMMENDED ELECTIVES

HUMANITIES

LE 200	English Composition 2
LE 203	Fundamentals of Speech
-----	Literature
LX 110	Introduction to Philosophy

SOCIAL SCIENCE

NP 300	Child & Developmental Psychology
NP 109	Human Relations at Work
NS 250	Sociology of the Family
NS 200	Social Problems
NP 320	Adolescent Psychology

AM 100-HUMAN SERVICES 1

5 credits

This course introduces the student to the multi-disciplinary approach currently utilized in the field of human services. Lectures, discussions, and group participation afford the student opportunities to acquire an appreciation of the duties and responsibilities of a prepared generalist. Through direct observation and supervised participation, the student can see theoretical concepts applied in practical situations. PREREQUISITE: Acceptance as Health Technology Major. Offered Fall Semester





AM 200-HUMAN SERVICES 2

5 credits

Continuing to participate in discussions and small groups on campus, each student is concurrently assigned supervised practicum in a community service agency. Through coordinated participation in academic studies and field work, the student is expected to demonstrate the acquisition of techniques and skills necessary for team membership in human services. Simultaneously the student is afforded opportunities to test personal resources in a supervised setting. **PREREQUISITE:** AM 100.

Offered Spring Semester

AM 300-HUMAN SERVICES 3

9 credits

Supervised field work experience is the focus of this course. The student is given opportunities to function as a community service team member. Qualified agency personnel provide direct supervision and guidance experience in a supervised laboratory setting through role playing and field simulations. Instruction is provided in the effective utilization of audio-visual equipment in the community.

PREREQUISITES: AM 100, 200. Enrollment in AM 301

Offered Fall Semester

AM 301-HUMAN SERVICES SEMINAR 1

3 credits

The focus of this course is the small group. Weekly seminars are held. Students serve as group leaders and participants. Through direct experience, the student becomes aware of the dynamics present in small group interaction as well as the planning essential for productive group work. Video techniques are an integral part of the course. Two sections must be attended weekly. **PREREQUISITES:** AM 100, 200

Enrollment in AM 300. Offered Fall Semester

AM 400-HUMAN SERVICES 4

9 credits

Rotating supervised field placement enables the student to continue acquiring practical experience in human service agencies. Duties and responsibilities are increased. Direct supervision and guidance are provided by qualified agency personnel. This enables the student to realistically define his/her choice for future work in human services. **PREREQUISITES:** AM100, 200, 300.

Offered Spring Semester

AM 401-HUMAN SERVICES SEMINAR 2

3 credits

Continuation of small group work as described in Course No. AM 301. **PREREQUISITE:** AM100, 200 300, 301. Enrollment in AM 400.

Offered Spring Semester

AA 102-HEALTH SCIENCES AND LAW

3 credits

The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.

Offered Fall Semester

MEDICAL ASSISTANT

The two-year program prepares students to meet the rigorous demands of today's practicing physician and his need for a skilled Medical Assistant. The program is jointly accredited by the American Medical Association and the American Association of Medical Assisting. Graduates of the program are eligible to take the national certifying exam.

The curriculum is designed to prepare students to assist the physician in clinical experience in cooperating health agencies during the senior year. Graduates are qualified to accept positions in medical offices, hospitals and other community health service agencies. Applicants must have an academic background in biology, and have taken the Scholastic Aptitude Test.

Minimum Grade Requirement: To continue in the progression of courses offered in the Medical Assisting program, a student must obtain a grade of "C" (73%) or better in the following courses: AA-100-Medical Assistant Techniques I; AA-200-Medical Assistant Techniques II; AA-301-Medical Assistant Techniques III; and AA-300-Medical Assistant Seminar & Field Work. The clinical segments of the Medical Assisting courses are planned in conjunction with the clinical agencies, and may deviate from the college hours. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Medical Assisting will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition I	3		3
MB 104	Human Biology I	3	2	4
BZ 101	Typewriting I	5		3
AA 100	Med. Asst. Tech. I	2	4	4
AA 101	Prog. Med. Terminology	1	2	2
AA 102	Health Sci. and the Law	3		3
		<u>17</u>	<u>8</u>	<u>19</u>

SEMESTER 2

MB 204	Human Biology 2	3	2	4
BZ 251	Medical Typewriting	1	2	2
BP 105	Med. Acct/Mgmt Office	3		3
AA 200	Med. Asst. Tech. 2	2	4	4
BZ 201	Typewriting 2	5		3
		<u>14</u>	<u>8</u>	<u>16</u>

SEMESTER 3

NP 100	General Psychology	3		3
BM 303	Med. Office Practice I	3		3
AA 300	Medical Assisting 4	1	14	8
AA 301	Med. Asst. Tech. 3	3		3
		<u>10</u>	<u>14</u>	<u>17</u>

SEMESTER 4

LE 201	Business English	3		3
BZ 454	Med. Mach. Transcript.	1		1
LF 120	Cultural Spanish	3		3
AA 400	Medical Assisting 5	1	14	8
	Elective - Soc. Science	3		3
		<u>11</u>	<u>14</u>	<u>18</u>

AA 100 - MEDICAL ASSISTANT TECHNIQUES I

4 credits
Presents theory and planned student activity in assisting with physical exam, medical asepsis, selected diagnostic tests, prepare the equipment and assist with minor surgery and wound dressing.
Offered Fall Semester

AA 101 - PROGRAMMED MEDICAL TERMINOLOGY

3 credits

This course is designed to be used on an individually paced basis, emphasizing the most commonly used combining forms, prefixes and suffixes that make up the language of medicine. The text will be supplemented with oral review and audio cassettes during each class. A working knowledge of medical terminology is desirable for anyone entering one of the Allied Health occupations or related fields.
Offered Spring & Fall Semester

AA 102 - HEALTH SCIENCES AND THE LAW 3 credits

The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and professions in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.
Offered Fall Semester

AA 200 - MEDICAL ASSISTANT TECHNIQUES 2

4 credits

Continuation of advanced theory. Selected laboratory procedures will include electrocardiogram, cardiopulmonary resuscitation, first aid procedures and a general understanding of medications. PREREQUISITE: AA-100.

Offered Spring Semester

AA-300/AA-400 - MEDICAL ASSISTANT TECHNIQUES

4 & 5 16 credits

The student will average fifteen hours a week for two semesters. General introduction to hospital offices and other health care clinics provide the student with additional experience in applying cognitive learning to practical applications. Students will be assigned to several different sites to give them the best possible background from which to choose the area in which they would like to pursue their professional career.

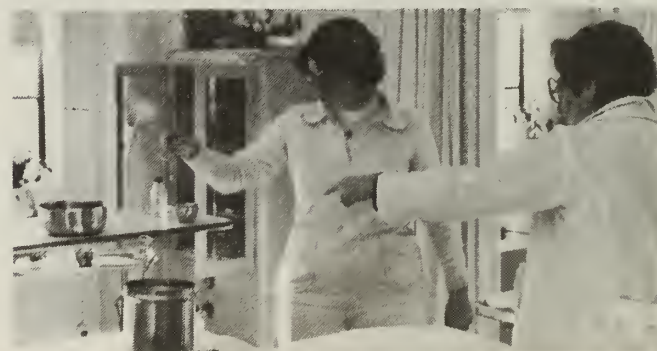
Offered Fall & Spring by Arrangement

AA 301 - MEDICAL ASSISTANT TECHNIQUES 3

3 credits

This course is designed to increase the level of knowledge in select areas of concentration. Terminology skills will be further developed. The student will become aware of environmental and genetic effects on good health. Discussion will focus on application of concepts to clinical areas. PREREQUISITES: AA-100; AA-200.

Offered Spring & Fall Semester



MEDICAL LABORATORY TECHNICIAN

This program offers an integrated curriculum which provides the student with a background in general education and the basic skills necessary to function in a clinical laboratory. Fundamentals in clinical microscopy, microbiology, hematology, immunohematology and clinical chemistry comprise the core curriculum. Clinical experience is obtained in a hospital laboratory with which the college has a contractual agreement. In order to matriculate students must have a minimum passing grade of "C" in all required courses.

Applicants must have completed a college preparatory course in high school which included biology, chemistry, and mathematics. SAT scores must be 400 or greater in mathematics and verbal skills with a total score of 800 or higher. Graduates of the program are eligible for national certification by successfully passing a written examination given by a certifying agency.

The program is designed to enable students to continue at a baccalaureate level in a four-year institution should they so desire.

Upon successful completion of requirements for this program, as listed below, the degree of Associate in Science in Medical Laboratory Technician will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MC 101	General Chemistry 101	3	3	4
MB 133	Anatomy & Physio./MLT	3	3	4
AL 100	Intro. to Clinical Lab 1	3	2	2
		<u>12</u>	<u>8</u>	<u>13</u>

SEMESTER 2

LE 200	Compositon 2:Literature	3		3
MC 201	General Chemistry 102	3	3	4
AL 200	Int. Med. Microbiology	3	4	5
AA 102	Health Sci. and Law	3		3
		<u>12</u>	<u>7</u>	<u>15</u>

SEMESTER 3

MC 350	Instrumental Analysis	2	4	4
MB 140	Biochemistry	3		3
AL 300	Hematology & Coagulation	3	3	4
AL 301	Clinical Chemistry	3	4	5
		<u>11</u>	<u>11</u>	<u>16</u>

SEMESTER 4

MM 140	Stat. & Qual. Control	4		3
AL 400	Immunohematology	3	3	2
AL 401	Parasitology	2	2	3
AL 402	Intro. to Clin. Lab 2			2
AL 403	Clinical Lab Practicum 1	2	38	4
		<u>11</u>	<u>43</u>	<u>14</u>

SUMMER SESSION

AL 404	Clinical Lab Practicum 2	2	38	8
--------	--------------------------	---	----	---

AL 100 - INTRODUCTION TO THE CLINICAL LAB 1

2 credits

The nature and scope of clinical laboratory work is explored. Proper use and care of laboratory equipment is explained. Urinalysis and principles of immunity are studied. Laboratory mathematics, preparation of laboratory solutions are taught.

Offered Fall Semester

AL 200 - INTRO. TO MEDICAL MICROBIOLOGY 5 cr
The growth and identification of microorganisms, including bacterial, and fungi found in infectious diseases constitutes the basis of this course. Sensitivity testing as an aid to therapy is included. Offered Fall Semester

AL 300 - HEMATOLOGY AND COAGULATION 4 credits
The hemopoetic system, the origin and development of human blood cells, their function; normal and abnormal findings are the basis for this course. Coagulation factors and their role in health and disease are studied. **PREREQUISITE:** AL-100 Offered Fall Semester

AL 301 - CLINICAL CHEMISTRY 5 credits
Designed to acquaint the student with the principles of gravimetric, volumetric and colorimetric analyses as applied to blood and other body fluids, this course stresses manual methods. Quantitative analyses are determined spectrophotometrically. Preparation of solutions and calibration of instruments are included. **PREREQUISITE:** AL-100 Offered Fall Semester

AL 400 - IMMUNOHEMATOLOGY 2 credits
Immunohematology provides the student with a background in the principles involved in preparing blood and blood components for transfusion purposes; the ABO system and Rh factors are studied. Compatibility testing is also taught. Hemolytic disease of the newborn and the identification of antibodies are included. **PREREQUISITE:** AL-300 Offered Spring Semester

AL 401 - PARASITOLOGY 3 credits
In this course the student will learn the life cycles and identification of parasites of man. Students will study prepared slides and process specimens for the detection of parasites. **PREREQUISITE:** AL 100 Offered Spring Semester

AL 402 - CLINICAL LAB 2 2 credits
This course will be a continuation of course AL-100 with emphasis on immunity and serological procedures. Offered Spring Semester

AL 403-CLINICAL LAB PRACTICUM 1 4 credits
Supervised clinical experience is obtained in an affiliated hospital laboratory under the supervision of a qualified medical technologist and pathologist. The rotation schedule provides experience in the following departments: Blood Bank, Chemistry, Hematology, Microbiology, Serology, and Urinalysis. (Includes summer session.) **PREREQUISITES:** Successful completion of core curriculum with a minimum passing grade of "C." Offered Spring Semester

AL 404-CLINICAL LAB PRACTICUM 2 8 credits
Continuation of AL 403. Summer Session

AA 102 HEALTH SCIENCE AND LAW 3 credits
The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights, and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed. Offered Spring Semester

NUCLEAR MEDICAL TECHNICIAN

This two year (24 month) six semester intensive program teaches the student to prepare radiopharmaceuticals for administration to patients for diagnostic procedures and then to position and scan the patient for the appropriate information. The affiliate hospitals at the Bay State Medical Center maintain a large inventory of modern imaging equipment.

On clinical affiliation the student learns to operate each piece of equipment and to interact with supportive medical departments such as diagnostic radiology, surgery, and medical sonography.

During the calendar year the students spend half-days at the hospital on practicum and half-days at the college on course work. Minimum course requirement for graduation in all subjects is a grade of "C" or better. At graduation the student receives an Associate in Science in Nuclear Medicine Technology and is eligible to sit for the national registry examination given by the ARRT and the Nuclear Medicine Technology Certification Board.

Application for the September class should be submitted to the Admissions Office before the 15th of January; however, applications are accepted throughout the year. There is a provision for accepting students during the Semester whenever clinical space is available. Applicants should have completed Algebra 1 & 2 and a biological and physical science. Students are responsible for the cost of uniforms, radiation monitors, physical examinations and medical tests, health insurance, liability insurance, books, calculator, and laboratory manual. Upon the successful completion of the requirements listed below, the degree of Associate in Science in Nuclear Medicine Technology will be awarded.

SEMESTER 1

No	Course Title	Class	Lab	Credits
MB 132	Anatomy & Physiology 1	3	3	4
MC 101	Chemistry 101	3	3	4
AZ 100	Nuclear Med. Tech. 1	3	3	4
AZ 101	Practicum		20	5
		<u>9</u>	<u>29</u>	<u>17</u>

SEMESTER 2

LE 100	English Composition 1	3		3
MB 232	Anatomy & Physiology 2	3	3	4
MC 201	Chemistry 102	3	3	4
AZ 200	Nuclear Med. Tech. 2	3	3	4
AZ 201	Practicum		20	5
		<u>12</u>	<u>29</u>	<u>20</u>

SUMMER 1

MP 146	Radiation Protection	1		1
AZ 202	Clinical Rotations	2	19	6
AZ 203	Clinical Rotations	1	19	5
		<u>4</u>	<u>38</u>	<u>12</u>

SEMESTER 3

MP 145	Radiologic Physics 1	3	3	4
MB 320	Histology	3	2	4
AZ 300	Nuclear Med. Tech. 3	3	3	4
AZ 301	Practicum		20	5
		<u>9</u>	<u>28</u>	<u>19</u>

SEMESTER 4

LF 120	Cultural Spanish	3		3
	Elective (Col. Lev. English)	3		3
MP 141	Nuclear Physics 1	3	3	4
AZ 400	Nuclear Med. Tech. 4	3	3	4
AZ 401	Practicum		20	5
		<u>12</u>	<u>26</u>	<u>19</u>

SUMMER 2

		Class	Lab	Credit
AZ 402	Practicum		20	5
AZ 403	Practicum		20	5
			<u>40</u>	<u>10</u>

AZ 100 - NUCLEAR MEDICINE TECHNOLOGY 1

4 credits

The course serves as an introduction and overview to the technology. The rationale as related to risks versus benefits are presented to the student. At the introductory level the student learns medical terminology, radiation protection, and patients' rights. Radiopharmaceutical preparation and patient preparations are covered. Instrumentation, the backbone of the technology, is begun with the application of the lecture executed in the laboratory.

PREREQUISITE: Concurrent MP-345. Course restricted to AZ. 3 hour lab.

Offered Fall Semester

AZ 200 - NUCLEAR MEDICINE TECHNOLOGY 2

4 credits

Continuation of AZ-100. The more advanced topics of instrumentation are covered such as the statistical theory, specific radionuclide imaging, positioning, and scanning for each procedure. Equipment quality control and calibration for each piece of equipment is covered in the laboratory. PREREQUISITE: AZ-100. Course restricted to AZ. 3 hour lab.

Offered Spring Semester

AZ 202, AZ 203 - CLINICAL PRACTICUM

6,5 credits

The student will select three of the four lecture series: oncology, nuclear medicine, diagnostic radiology, radiation therapy. The laboratory aspect of the respective lecture will direct the student toward an understanding of the supportive medical specialty. Common to each laboratory is the practical application of the radiation protection courses demonstrated by the physics section of Bay State Medical Center. Restricted to AY, AX, AZ.

Offered Summer 1

AZ 300 - NUCLEAR MEDICINE TECHNOLOGY 3

4 credits

In vitro studies are covered with application in the laboratory. Radiopharmaceutical generator systems are presented with special emphasis on the technetium generator. Technetium chemistry and all radiopharmaceutical technetium preparations are covered from a chemical aspect. Quality control of the technetium elutions and preparations is emphasized. PREREQUISITE: MC-101, MC-201. Course restricted to AZ. 3 hour lab.

Offered Fall Semester

AZ 400 - NUCLEAR MEDICINE TECHNOLOGY 4

4 credits

The mathematics and the application of internal dosimetry are discussed in relation to patient risk/benefit and NRC compliance management of radioactive waste, record accountability, emergency management, and the most advanced aspect of instrumentation are covered. PREREQUISITE: MP-141. Restricted to AZ. 3 hour lab.

Offered Spring Semester

AZ 101, AZ 201, AZ 301, AZ 402, AZ 403**PRACTICUM (5,5,5,5,5 credits)**

Practicum is the clinical aspect of the technology as related directly to the patient. The student acts under close supervision and gradually learns the technology. At graduation from the program, over 2000 clinical hours have been accumulated and evaluated in a gradual process, which insures that the student can function as a qualified technologist. Tumor board attendance, in-service, and technological meetings supplement practicum. Restricted to AZ.

Offered Fall & Spring Semester

MP 141 - NUCLEAR PHYSICS I**4 credits**

Approximately half of the semester is devoted to understanding the nuclear properties of the atom. Energy levels are described according to the quantum mechanical theory. Unstable nuclei and radiation processes are detailed: alpha, beta, positron, gamma, IC and related to the chart of the nuclides, to linear energy transfer, and subsequently to radio-biological response. The remaining time of the semester is used to present the mathematics underlying radioactive decay, half-value layer, radioactive equilibria, and the statistics of the poisson and normal curve. The mathematics of target theory and resulting curves are explained. Open to others by permission of instructor. 3 hour lab. PREREQUISITE MM-093.

Offered Spring Semester

MP 145 - RADIOLOGIC PHYSICS I**4 credits**

Topics covered are: basic mechanics, mass force, energy, work, momentum and SI units. Electrostatics, magnetism, basic electrons, and the solid state are covered with laboratory application in radiology. Special topics are: the nature of the photon, ionizing radiation, and the interaction of ionizing radiation with matter via scattering, Photoelectric effect, Compton effect, and Pair Production. Radiation attenuation and absorption coefficients are covered in detail. The solid state electronics of radiation detection equipment is covered in theory and then detailed in the laboratory. Open to other students by permission of instructor. 3 hour lab. PREREQUISITE: MM-093.

Offered Fall Semester

MP 146 - RADIATION PROTECTION**1 credit**

The nature of ionizing radiation and its biological effect on the human are discussed. The NRC and Commonwealth rules and regulations relating to radiation protection and monitoring of personnel and patient are presented to the level where the student understands risk versus benefit of medical radiation. Radiation detection equipment and instrumentation are presented so that the student knows applicable radiation detection devices for clinical and emergency situations. The human radio-biological response is covered. Open to other students by permission of instructor.

PREREQUISITE: MM-093

Offered Summer I



NURSING

The nursing curriculum is planned to prepare young men and women to be professional nurses who will be competent to render safe and effective nursing care to people within the normal life cycle, both in health and illness. The community-centered approach combines both liberal and technical education for the student within the college and community health facilities.

The student who successfully completes the prescribed curriculum earns the degree of Associate of Science and is eligible to take the licensing examination to qualify as a Registered Nurse. The program is approved by the Massachusetts Board of Registration in Nursing. It also has full accreditation by the National League for Nursing.

Prerequisites for admission to the Nursing Program call for the applicant to be a high school graduate or equivalent. The candidate also must have completed courses in Algebra 2, Geometry, Chemistry and Biology. The SAT's are required for admission with minimum score of 450 on both the verbal and math portions of the test.

Minimum Grade Requirement: Students must achieve a minimum grade average of 75% or a cumulative point average of 2.15 in each nursing course. In addition, students must attain at least a "C" in related science courses or a cumulative grade point average of 2.0. The clinical segments of the nursing courses are planned in conjunction with the clinical agencies, and may deviate from the college hours. Upon the successful completion of requirements for this program, as listed below, the degree of Associate In Science in Nursing will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
MB 132	Anatomy & Physiol. 1	3	3	4
NP 100	General Psychology	3		3
AN 100	Nursing 1	4	10	7
		10	13	14

SEMESTER 2

LE 100	English Composition 1	3		3
MB 232	Anatomy & Physiol. 2	3	3	4
NP 400	Abnormal Psychology	3		3
AN 200	Nursing 2	4	10	7
		13	13	17

SEMESTER 3

MB 121	Microbiology	3	3	4
NS 100	Intro. to Sociology 1	3		3
AN 300	Nursing 3	4	15	9
		10	18	16

SEMESTER 4

AN 400	Nursing 4	4	15	9
AN 401	Nursing 5	2		2
	Soc. Science (Elective)	3		3
	Humanities (Elective)	3		3
	English	12	15	17

AN 100 - NURSING 1

7 credits

Nursing 1 is an introduction to contemporary nursing. The conceptual framework utilized is the pursuit of wholeness through the nursing process. Using principles drawn from the behavioral and biological sciences, the student is guided in developing the ability to use this

systematic method for assessment of needs, identification of problems, setting of goals and objectives, implementing and evaluating nursing care. The modular approach is used to help the student gain knowledge and understanding of the life cycle, the nursing process, nursing issues health needs, basic nutrition and pharmacology. Integrated with the theoretical content is planned simulated laboratory practice and experience in health facilities which permit the opportunity to apply scientific principles and develop skill in meeting patient needs.

Offered Fall Semester

AN 200 - NURSING 2

9 credits

With the knowledge of basic concepts and skills in nursing derived from Nursing 1, the student is provided with opportunities to develop the nursing process. Under supervision, he/she implements and evaluates nursing care to children and adults. Community health facilities are utilized to give the student the opportunity to plan and deliver care to persons of various life styles and economic standards, who are experiencing various degrees of homeostatic imbalance.

Offered Spring Semester

AN 300 - NURSING 3

9 credits

A continuation of Nursing 2, in which the student is more independent in using the nursing process to coordinate care for persons with more complex health problems.

Offered Fall Semester

AN 400 - NURSING 4

9 credits

NURSING THE DEVELOPING FAMILY

4.5 credits

Nursing the Developing Family is concerned with the maternity cycle and with people involved in the family unit from conception of the child through the neonatal period. The developmental approach is used to assist the student to assimilate knowledge as it deals with maintaining health and coping with the stresses of pregnancy and birth. The student of nursing will refine nursing process skills through the care of assigned families in community health facilities.

Offered Spring Semester

COMMUNITY MENTAL HEALTH NURSING

4.5 credits

Through the exposure to Community Mental Health Agencies, the student of nursing will be offered opportunities to develop psychiatric nursing skills practiced in previous nursing courses. Interpersonal skills will be refined through relationships with patients, health team members and in group process. Community resources will be selected in order to expose the student to leaders in community mental health and media which will broaden their field of knowledge in this discipline.

Offered Spring Semester

AN 401 - NURSING 5

2 credits

Nursing process is utilized to assist students to identify their needs and problems in the transitional role from student to graduate. Basic legal concepts form the cognitive framework for the discussion of current issues in nursing. Humanistic and group processes are used to identify the relevant issues.

Offered Spring Semester

ASSOCIATE DEGREE IN NURSING FOR REG. NURSES

Springfield Technical Community College's Division of Continuing Education offers a Program of Studies designed for Registered Nurses. Successful completion of the requirements for this program leads to an Associate in Science in Nursing degree for Registered Nurses.

In order to be eligible to file for acceptance into this program, the applicant must be:

1. A graduate of an approved School of Nursing.
2. Currently licensed as a Registered Nurse in the Commonwealth.
3. Recommended by his/her current employer or Director, School of Nursing.

Curriculum requirements are as follows:

1. Thirty (30) credits to be awarded (irrespective of, but including academic credits earned in a diploma program) to a person currently registered as a nurse in the Commonwealth of Massachusetts.
2. Twenty-one (21) credits are to be earned in the area of liberal arts. Credits may be contracted with the College.

English	6 credits
Sociology	6 credits
Psychology	6 credits
Electives	3 credits

3. Twelve (12) credits are to be earned in the area of Continuing Education in Nursing. Choice of courses are subject to contract with the College.

4. A minimum of fifteen (15) credits must be earned at STCC. Students may challenge or transfer up to eighteen (18) credits toward this degree.

5. All records are subject to evaluation by the Division of Continuing Education and College Registrar.

The General Education Components of this curriculum are offered in all sessions of the Division of Continuing Education. Upon the successful completion of requirements for this program, as listed, the degree of Associate in Science in Nursing will be awarded.



PHYSICAL THERAPIST ASSISTANT

The objective of this program is to prepare men and women for employment in the physical therapy field. The graduate physical therapist assistant works under the direction and supervision of a registered physical therapist performing patient-related activities and other tasks required for the operation of the service. The two-year curriculum leading to an Associate Degree follows the guidelines adopted by the American Physical Therapy Association. The curriculum is designed to develop technical knowledge and skills and background information for understanding in anatomy, physiology, kinesiology, disease processes, psychological and interpersonal relations. In addition, emphasis is placed on ethical and legal aspects. Approximately one semester of the program is supervised practice in selected clinical settings.

Minimum Grade Requirement: The Physical Therapist Assistant student must obtain a minimum grade of "C" (73%) in each of the following courses: AP300-Medical Lectures; AP200-Kinesiology; AP100-Physical Therapist Assisting 1; AP201-Physical Therapist Assisting 2; AP301-Physical Therapist Assisting 3; AP400-Supervised Clinical Experience; AP401-Supervise Clinical Experience; and AP402-Physical Therapist Assistant Seminar and MB132-232 - Anatomy and Physiology.

In addition to the above requirement, the student must have earned a minimum of 70 credits with a cumulative quality point average of 2.0 in order to be eligible for graduation. Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Physical Therapist Assistant will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 132	Anatomy & Physiology 1	3	2	4
NP 100	General Psychology	3		3
AP 100	Phys. Therapist Asst. 1	2	4	4
LF 120	Cultural Spanish	3		3
		14	6	17

SEMESTER 2

LE 200	Comp. 2: Intro. to Lit.	3		3
MB 232	Anatomy & Physiology 2	3	2	4
AP 200	Kinesiology	3	2	4
	Elective	3		3
AP 201	Phys. Therapist Asst. 2	2	4	4
		14	8	18

SEMESTER 3

NS 100	Intro. to Sociology 1	3		3
AP 300	Medical Lectures	3		3
AP 301	Phys. Therapist Asst. 3	2	4	4
AA 102	Health Science and Law	3		3
	Elective	3		3
		14	4	16

SEMESTER 4

AP 400	Supervised Clin. Exp.		18	9
AP 401	Supervised Clin. Exp.		18	9
AP 402	Physical Therapist Asst. Seminar	1		1
		1	36	19

AP 100 - PHYSICAL THERAPIST ASSISTING 1 4 cr.
This course provides a survey of Physical Therapy and its relation to the medical environment. Emphasis is placed on the relationship of the assistant to the registered professional

Physical Therapist. Body mechanics, selected basic nursing skills, and first aid are included. Field trips for orientation and first aid are included. Field trips and observation will be planned.
Offered Fall Semester

AP 200 - KINESIOLOGY

4 credits

This course is designed to develop an understanding of the dynamics of human motion through the study of muscles and joints. **PREREQUISITE:** Anatomy & Physiology 1 MB 132.

Offered Spring Semester

AP 201 - PHYSICAL THERAPIST ASSISTING 2

4 cr.

This course provides lecture and laboratory work in hydrotherapy, electrotherapy, massage and the study of their physiological effects. Principles of bronchial drainage are included. **PREREQUISITE:** Physical Therapist Assisting 1.

Offered Spring Semester

AP 300 - MEDICAL LECTURES

3 credits

This course presents the tissue changes resulting from trauma, disease, tumors, and degenerative processes. A series of lectures acquaints the student with the orthopedic, neurological, and general medical condition he/she will encounter in treating the patient. **PREREQUISITES:** Anatomy and Physiology 1 and 2 (MB 132 MB 232).

Offered Fall Semester

AP 301 - PHYSICAL THERAPIST ASSISTING 3

4 cr.

The student studies mechanical and physiological concepts of exercise programs with emphasis on the problems related to the patient's motor involvement. Laboratory experience is provided to develop the skill of the student in application of various assistive devices. **PREREQUISITE:** Kinesiology (AP 200) Physical Therapist Assisting Techniques 1 & 2 (AP 100, AP 201).

Offered Fall Semester

AP 400, AP 401-SUPERVISED CLINICAL EXPERIENCE

9 credits each

Supervised practice in selected clinical settings. **PREREQUISITES:** Physical Therapist Assisting Techniques 1, 2, & 3 (AP 100, AP 201, AP 301.)

Offered Spring Semester

AP 402 - PHYSICAL THERAPIST ASSISTANT SEMINAR

1 credit

The purpose of these seminars is to correlate the academic and technical courses with the practical clinical work. They are alternately scheduled with the affiliation assignments so that students may return to the classroom for sharing and discussion.

Offered Spring Semester

AA 102 - HEALTH SCIENCE AND LAW

3 credits

The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights, and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.

Offered Fall Semester

RADIATION THERAPY TECHNOLOGY

This two year (24 month) intensive program prepares the student to treat disease using high energy ionizing radiation. The course of instruction covers the treatment planning specific to each patient, the machine set-up, execution of the treatment and follow up on the patient. The affiliate hospitals at Baystate Medical Center house a 4 MeV linear accelerator 2 cobalt machines, radioactive sealed sources, orthovoltage and superficial machines with wedge and rotation capabilities. On clinical affiliation, the student learns how to interact with the supportive medical departments, such as diagnostic radiology and its CT scanner, nuclear medicine and oncology. Nursing procedures and patient care relating to this technology are incorporated into the overall teaching.

During the academic year, the students spend half-day at the hospital on practicum and half-day at the college on course work. Summer months are devoted to clinical teaching aspect. Minimum course requirements for graduation in all subjects is to maintain a "C" (73%) or better. At the termination of two years, the student receives an Associate of Science Degree in Radiation Therapy Technology and is eligible to sit for the national registry examination in Radiation Therapy Technology.

Applications for the September class should be submitted to the Admission Office before January 15th; however, applications are accepted throughout the year. There is a provision for accepting students during the semester whenever clinical space is available. Applicants should have completed Algebra 1 and 2 and have taken a biological and a physical science.

Upon successful completion of requirements for this program, as listed below, the degree of Associate of Science in Radiation Therapy Technology will be awarded.

SEMESTER 1

NO.	Course Title	Class	Lab	Credits
MB 132	Anatomy and Physiology 1	3	3	4
BD 101	Computer Concepts	3	3	4
AY 100	Radiation Therapy Tech. 1	3	3	4
AY 101	Practicum		20	5
		9	29	17

SEMESTER 2

LE 100	English Composition I	3		3
MB 232	Anatomy & Physiology 2	3	3	4
BD 306	Fortran for Technologists	3	3	4
AY 200	Radiation Therapy Tech. 2	3	3	4
AY 201	Practicum		20	5
		12	29	20

SUMMER 1

MP 146	Radiation Protection	1		1
AY 202	Clinical Rotations	2	19	6
AY 203	Clinical Rotations	1	19	5
		4	38	12

SEMESTER 3

MP 145	Radiation Physics I	3	3	4
MB 320	Histology	3	2	4
AY 300	Radiation Therapy Tech. 3	3	3	4
AY 301	Practicum		20	5
		9	28	17

SEMESTER 4

NO.	Course Title	Class	Lab	Credit
LF 120	Cultural Spanish	3		3
	Elective College English	3		3
MP 141	Nuclear Physics I	3	3	4
AY 400	Radiation Therapy Tech. 4	3	3	4
AY 401	Practicum		20	5
		12	26	19

SUMMER 2

AY 402	Practicum		20	5
AY 403	Practicum		20	5
			40	10

AY 100 - RADIATION THERAPY TECHNOLOGY 1

4 credits

The course and the laboratory serve as an introduction and overview to Radiation Therapy Technology. The rationale of radiation therapy as a mode of medical treatment and its relationship to surgery and chemotherapy are discussed. Basic principles of dose, fractionation, and time are related to treatment procedure. The students learn medical terminology and anatomical landmarks for the different types of patient treatment, radiation response, and the important aspects of patient's rights. **PREREQUISITE:** Concurrent MP 345. Three hour laboratory. Restricted to AY. Offered Fall Semester

AY 200 - RADIATION THERAPY TECHNOLOGY 2

4 credits

This course serves to cover oncology in detail with patient management, treatment of specific sites, such as head and neck, lung, gynecological areas, gastrointestinal sites, RE, skin, soft tissue, whole body, and benign lesions. The physical aspects of dose determination and rationale of implant therapy versus external beam are covered. **PREREQUISITE:** MB 132 and Concurrent MB 232. Restricted to AY. Offered Spring Semester

AY 202, AY 203 - CLINICAL PRACTICUM

6, 5 credits

The student will select three of the four lectures series: oncology, nuclear medicine, diagnostic radiology, and radiation therapy. The laboratory aspect of the respective lecture will direct the student toward an understanding of the supportive medical specialty. Common to each laboratory is the practical application of the radiation protection course demonstrated by the physics section of Baystate Medical Center. Restricted to AY, AX, and AZ. Offered Summer I

AY 300 - RADIATION THERAPY TECHNOLOGY 3

4 credits

Radiation Pathology is developed and defined. Malignant and nonmalignant pathologies are presented along with tumors development and classification and are related to patient care and treatment. Carcinogenesis is covered in detail. **PREREQUISITES:** MB 132, MB 232 and concurrent MB 320. Restricted to AY. Offered Fall Semester



AY 400 - RADIATION THERAPY TECHNOLOGY 4

4 credits

The physical and radiobiological aspects of radiation therapy are covered. Treatment planning and computer application and implant dosimetry are discussed, with mock patients planned in the laboratory session. Calibrations are covered in detail, including hands-on in the laboratory. Radiobiology aspects covering cells and medical theory are related to growth and repair. **PREREQUISITES:** BD 101, BD 306, MB 132, MB 232. Restricted to AY.

Offered Spring Semester

AY 101, AY 201, AY 301, AY 401, AY 402, AY 403 PRACTICUM

(5,5,5,5,5,5, credits)

Practicum is the clinical aspect of the technology as related to the patient. The student acts under close supervision and gradually learns the technology. At the terminus of the program, over 2000 clinical hours have been accumulated and evaluated, which insures that the student can function as a qualified technologist upon graduation from the program. Tumor board attendance, in-service, and technological meetings supplement practicum. Restricted to AY.

MP 141 - NUCLEAR PHYSICS 1

4 credits

Approximately half of the semester is devoted to understanding the nuclear properties of the atom. Energy levels are described according to quantum mechanical theory. Unstable nuclei and radiation processes are detailed: (alpha, beta, positron, gamma, IC) and related to the chart of nuclides to linear energy transfer, and subsequently to radiobiological response. The remaining time of the semester is used to present the mathematics underlying radioactive

decay, half-value layer, nuclides, radioactive-equilibria, and the statistics of the poisson and normal curve. The mathematics of target theory and the resulting curves are explained. **PREREQUISITE:** Math MB 093. Open to other students by permission only. Three hour laboratory.

Offered Spring Semester

MP 145 - RADIOLOGIC PHYSICS 1

4 credits

Topics covered are: basic mechanics, mass force, energy, work, momentum and SI units. Electrostatics, magnetism, basic electrons, and the solid state are covered with laboratory application in radiology. Special topics are: the nature of the photon, ionizing radiation, and the interaction of ionizing radiation with matter via scattering, Photoelectric effect, Compton effect, and Pair Production. Radiation attenuation is covered in detail. The electronics of radiation detection equipment is covered in theory and then detailed in the laboratory. **PREREQUISITE:** Math MB 093. Open to other students by permission only. Three hour laboratory.

Offered Fall Semester

MP 146 - RADIATION PROTECTION

1 credit

The nature of ionizing and its biological effects on the human are discussed. The federal and Commonwealth rules and regulations relating to radiation protection and monitoring of personnel and patient are presented to the level where the student understands risk versus benefit of medical radiation. Radiation detection equipment and instrumentation are presented so that the student knows applicable radiation detection devices for clinical and emergency situations. **PREREQUISITE:** MB 093. Open to other students by permission of instructor.

Offered Summer I

RADIOLOGIC TECHNOLOGY

The Radiologic Technology program prepares an individual to become an important member of the radiology team, in that he/she produces diagnostic films and radiographs as well as assisting the radiologist in fluoroscopic examinations.

Students spend half of each day at the College and the other half at the affiliating hospital, Baystate Medical Center. By keeping practicum and didactics in juxtaposition, the student learns better by being able to put into practice what he or she has recently learned. A live 500 MA x-ray unit, numerous phantoms, a wide assortment of grids, screens and other equipment on campus enable the student to attain the necessary skills. Exposure to anatomy and physiology, radiologic physics, radiologic math, and liberal arts courses including English Composition, Sociology and Psychology round out the curriculum. Students successfully completing this program will receive their Associate in Science degree from the College and will be eligible to take their National Board Examination from the American Registry of Radiologic Technologists, the national certifying body. The program operates under the auspices of the Joint Review Committee on Medical Education in Radiologic Technology of the American Medical Association. Applications must be submitted by January 30th; the course begins in July.

Minimum Grade Requirement: Students in Radiologic Technology are required to obtain a "C" (73%) as a final grade in the following courses: MP 145-Radiologic Physics 1; MP 245-Radiologic Physics 2; MB 132-Anatomy & Physiology 1; MB 232-Anatomy & Physiology 2; AX-104-Radiologic Technology 1; AX 105-Radiologic Technology 2; AX 200-Radiologic Technology 3; AX 201-Radiologic Technology 4; AX 300-Radiologic Technology 5; AX 301 Radiologic Technology 6; AX 400-Radiologic Technology 7; and AX-401 Radiologic Technology 8.

Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Radiologic Technology will be awarded.

SUMMER SPECIAL

NO.	Course Title	Class	Lab	Credits
AX 100	Medical Terminology	3		3
AX 101	Intro Radiologic Tech.	3	18	6
AX 102	Intro Radiologic Tech.	2	12	4
		8	30	13

SEMESTER 1

LE 100	English Composition 1	3		3
MB 132	Anatomy & Physiology 1	3	3	4
AX 103	Mathematics of Radiology	3		3
AX 104	Radiologic Technology 1	3	18	8
		12	21	18

INTERSESSION 1 (1 Week)

AX 105	Radiologic Technology 2		40	1
			40	1

SEMESTER 2

LE 200	Comp. 2: Intro. to Lit.	3		3
MB 232	Anatomy & Physiology 2	3	3	4
AX 200	Radiologic Technology 3	3	18	8
		9	21	15

SUMMER SPECIAL

AX 201	Radiologic Technology 4	5	16	6
AX 202	Radiologic Technology 4	3	15	5
MP 146	Radiation Protection	1		1
		9	31	12

SEMESTER 3

MP 145	Radiologic Physics 1	3	3	4
NP 100	General Psychology	3		3
AX 300	Radiologic Technology 5	3	23	9
		9	26	16

INTERSESSION 2 (1 Week)

AX 301	Radiologic Technology 6		40	1
			40	1

SEMESTER 4

MP 245	Radiologic Physics 2	3	3	4
LF 120	Cultural Spanish	3		3
AX 400	Radiologic Technology 7	3	23	9
		9	26	16

SUMMER 3

AX 401	Radiologic Technology 8		40	4
			40	4



AX 100 - MEDICAL TERMINOLOGY 4 credits
The student learns the medical terms used in pathology and radiology. Offered 1st Summer

AX 101-INTRODUCTION TO RADIOLOGIC TECHNOLOGY 6 credits
Offered 1st Summer

AX 102-INTRODUCTION OF RADIOLOGIC TECHNOLOGY 4 credits

The radiologic Technology Program begins the first Monday in July with these two courses in which the students learn the basics of professional ethics, a concise practical approach to the radiation monitoring system, and learn the anatomy of, and how to x-ray, the extremities. Labs are done in the live x-ray room at the college using x-ray phantoms and the students put into practice at the hospitals in the afternoons what they learned at the college in the mornings. These two courses occupy the first eight weeks of the program and at the end of this period students should be able to x-ray the extremities. Offered 1st Summer

AX 103 - MATHEMATICS OF RADIOLOGY 3 credits
This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It also provides the mathematical basis needed for nuclear medicine and radiation therapy and is taken by these students. Offered Fall Semester

AX 104 - RADIOLOGIC TECHNOLOGY 1 8 credits
This course is limited to students in the radiologic technology program. It deals with the correct positioning techniques for the extremities. The manufacture and composition of x-ray film processing solutions and nursing procedures. Offered Fall Semester

AX 105 - RADIOLOGIC TECHNOLOGY 2 1 credit
This is a one week (40 hours) of practicum spent entirely at the hospital during the Christmas vacation.

AX 200 - RADIOLOGIC TECHNOLOGY 3 8 credits
This is a continuation of AX 104, the difference being that x-raying of the trunk is covered, including the organs within the abdomen. The student progresses further into grids, magnification techniques, penetrometers and heating and cooling curves. Offered Spring Semester

AX 201, AX 202 - RADIOLOGIC TECHNOLOGY 4
This is a 9 week pure practicum spent at the hospital and begins the Monday after exam week second semester. During this time students will be excused to take MP 146 Radiation Protection. Offered 2nd Summer

AX 300 - RADIOLOGIC TECHNOLOGY 5 9 credits
This is a continuation of AX 200 and the students study special views of the examinations already covered together with examinations requiring contrast media. Offered Fall Semester

AX 301 - RADIOLOGIC TECHNOLOGY 6 1 credit
This is one week (40 hours) of practicum spent entirely at the hospital during the Christmas vacation.

AX 400 - RADIOLOGIC TECHNOLOGY 7 9 credits
This is a continuation of AX 300 and is devoted to special procedures and a complete review of all the previous work. The special procedures are broken down into 3 areas; namely, radiographic equipment for special procedures, radiographic positioning, techniques for special procedures and contrast media used. Offered Spring Semester

AX 401 - RADIOLOGIC TECHNOLOGY 8 credits
Five weeks (200 hours) of practicum spent entirely at the hospital. It begins the first Monday after exam week. Offered 3rd Summer

MP 145 - RADIOLOGIC PHYSICS 1 4 credits
Topics covered are: basic mechanics, mass, force, energy, work, momentum. Electrostatic, magnetism, and basic electronics, solid state will be discussed with applications in radiology. Special topics are: the nature of the photon, ionizing radiation with matter via scattering, Photoelectric Effect, Compton Effect, and Pair Production. Radiation attenuation and absorption coefficients are covered in detail. The solid state equipment of radiation detection equipment is covered in theory then detailed in the laboratory. **PREREQUISITE:** Math MM 093. 3 hour laboratory. Required of students in departments AY, AX, and AZ. Open to others by permission of instructor. Offered Fall Semester

MP 146 - RADIATION PROTECTION 1 credit
The nature of ionizing radiation and its biological effect on the human are discussed. The NRC and Commonwealth rules and regulations relating to radiation protection and monitoring of personnel and patient are presented to the level where the student understands risk versus benefit of medical radiation. Radiation detection equipment and instrumentation are presented so that the student knows applicable radiation detection devices for clinical and emergency situations. The human radiobiological response is covered. **PREREQUISITE:** Math MM 093. Required for students in departments AY, AX, and AZ. Open to others by permission. Offered 2nd Summer

MP 245 - RADIOLOGIC PHYSICS 2 4 credits
Expansion of mathematics and topics from MP 145. Also included are chemistry of darkroom chemical reactions, calibration of diagnostic equipment, radionuclides in clinical use, physics of xeroradiography, detailed discussion of X-ray machines and X-ray production. 3 hour laboratory. **PREREQUISITE:** Math MM 093. Required of students in department AX. Open to others by permission. Offered Spring Semester

RESPIRATORY THERAPY

Respiratory Therapy is a health specialty involved in the treatment, management, diagnosis and care of patients with lung disease and cardiopulmonary dysfunction.

The Respiratory Therapist is an expert in the use of therapeutic gases, ventilatory support, aerosol administration, bronchiopulmonary drainage and exercises, cardiopulmonary resuscitation, medications, humidification and maintenance of natural, artificial and mechanical airways.

Therapists are also involved in diagnostic testing, monitoring, treatment, education, and research. These include the measurement of lung volumes, pressures, flows, blood gas analysis and other related physiological monitorings.

For the tactful, stable and responsible man or woman, Respiratory Therapy offers the chance to work closely with patients in a career which is both personally and financially rewarding.

Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Respiratory Therapy will be awarded.

The graduate registered therapist is assured of rapid advancement in a field where there are apt to be more jobs than therapists to fill them. While the greater number of graduates work in hospitals or hold teaching positions, the future undoubtedly will see openings in industry, rehabilitation centers and home care programs.

This program is sponsored by the college in cooperation with area hospitals and is fully accredited by the Joint Review Committee for Respiratory Therapy.

1. Admissions Requirements

High School graduate or equivalent

PREREQUISITES: College algebra

(math MM 091, MM 092, MM 093 or its equivalent)

Biology

Chemistry

SAT's greater than 400 in math & verbal (may be waived)

Admission

Students must submit a required health form prior to September 1 in the year of their initial enrollment.

Any disabilities must be within safe limits for both students and patients. It should be noted that the affiliating hospitals require by contract proof of satisfactory health and reserve the right to refuse affiliation for students. Therefore, health status is subject to contract terms.

Students' physical and mental ability must withstand the vigorous demands of respiratory therapy (i.e., able to climb stairs rapidly and work under stress).

Students must procure liability insurance prior to beginning affiliation.

Advanced standing is available for CRTT and personnel with prior experience see the program director for additional information.

2. Academic Requirements

No grade lower than a "C" (73%) will be accepted towards graduation in respiratory therapy.

Students not meeting the grade requirement of "C" (73%) for courses in the first and second semesters will be withdrawn from the program.

Students not meeting the grade requirement for courses in the third and fourth semesters will be on probation for one additional year. Students must retake the course and achieve the minimum passing grade. Failure to receive a satisfactory grade within the probationary period will result in dismissal from the program.

Failure in an affiliation course will result in dismissal from the program.

Grades of less than "C" will not be accepted for transfer.

The following clinical lab courses have a 7:00 A.M. starting time.

AR 301 Respiratory Therapy II

AR 400 Respiratory Therapy III

AR 401 Respiratory Therapy IV

SEMESTER 1

No.	Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 132	Anatomy & Physiology 1	3	2	4
MC 101	General Chemistry 101	3	3	4
AR 100	Respiratory Therapy 1	4	4	6
AA 102	Health Sci. & the Law	3		3
		16	9	20

SEMESTER 2

AR 200	Respir. Therapy Physics	3	8	7
MB 232	Anatomy & Physiology 2	3	2	4
MC 201	General Chemistry 102	3	3	4
AR 201	Resp. Ther. Pharmacology	3		3
LF 120	Cultural Spanish	3		3
		15	13	21

SEMESTER 3

MB 121	Microbiology	3	2	4
AR 300	RT Appl./Clin. Science	3		3
AR 301	Respiratory Therapy 2	3	12	9
AR 302	Intensive Resp. Care	5		5
		14	14	21

SEMESTER 4

AR 400	Respiratory Therapy 3		10	5
AR 401	Respiratory Therapy 4		12	6
AR 402	RT Appl./Clin. Sci. 2	3		3
AR 403	Pulmonary Func. Test.	1	2	2
LE 200	Comp. 2: intro. to Lit.	3		3
		7	24	19

AR 100 - RESPIRATORY THERAPY I 6 credits

This is an introductory course covering basic respiratory anatomy and physiology, fundamental theories, equipment and practices of Respiratory Therapy. This course is designed to provide the student with a foundation of knowledge and fundamental theory which will enable the student to grasp more complex theories and practices of Respiratory Therapy in subsequent courses. Offered Fall Semester

AR 200 - RESPIRATORY THERAPY PHYSICS 7 cr.
This course integrates physical principles with the application to clinical equipment. Kinetic theory developed into the ideal gas laws. Application to respiratory therapy of the corrected gas laws, fluids acid base balance and basic electronics of respiratory therapy equipment will be included. This course includes 8 hours of clinical lab.

Offered Spring Semester

AR 201 - RESPIRATORY PHARMACOLOGY 3 credits
An extensive study in the general application, contraindication, indication, and hazards of pharmacological agents used in the treatment of cardiopulmonary disease. **PREREQUISITES:** AR 100 and AR 200.

Offered Spring Semester

AR 301 - RESPIRATORY THERAPY 2 9 credits
An extensive study of the principles and theories of IPPB, incentive spirometry, chest physio-therapy and home rehabilitation. Equipment, facilities and current trends in these areas will be examined. Integration of the various modes of therapy and their clinical application is discussed in this course. **PREREQUISITES:** AR 100, AR 200.

Offered Fall Semester

AR 302 - INTENSIVE RESPIRATORY CARE 5 cr.
An indepth study of the principles of continuous ventilation and resuscitation. All ventilators in common use will be examined in detail and their clinical use will be discussed. Hemodynamic monitoring, flow patterns and critical respiratory care will also be studied. **PREREQUISITES:** AR 100 and AR 200.

Offered Fall Semester

AR 400-AR 401 - RESPIRATORY THERAPY 3 & 4 5 & 6 credits
The clinical, bedside and laboratory application of Respiratory Therapy is presented utilizing the facilities of affiliated hospitals under supervision of hospital therapists, physicians and adjunct faculty. Clinical affiliation is designed to expose them to an environment in which to perform procedures at the patient's bedside, in the laboratory and in out-facilities. **PREREQUISITES:** AR 200, AR 100, AR 201, AR 300, AR 301, AR 403, AR 302.

Offered Spring Semester

AR 403 - PULMONARY FUNCTION TESTING 2 cr.
This course will examine in detail all diagnostic tests in use, their interpretation and the patterns of various respiratory diseases. This course is primarily taught in the pulmonary lab. Arterial blood gases and their interpretation are covered in depth. **PREREQUISITES:** AR 100, MP 140.

Offered Fall Semester

AR 300-AR 402 - RESPIRATORY THERAPY APPLICATION & CLINICAL SCIENCES 1 & 2 3 credits each
This is a two-part course offered over two semesters that encompasses intensive Respiratory Anatomy and Physiology designed to prepare the student for clinical judgment in

Respiratory Therapy. Topics related to Respiratory function such as pulmonary function testing, respiratory pharmacology, controlled ventilation (physiological aspects) blood gas analysis and acid base balance and breath sounds are included. **PREREQUISITES:** AR 100 and AR 200.

AA 102 - HEALTH SCIENCES AND LAW 3 credits
The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights, and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.

Offered Fall Semester



SURGICAL TECHNOLOGY

The objective of the Surgical Technology program is to prepare men and women to function as a member of a surgical team, or as an assistant to the surgeon, anesthesiologist, or professional nurse in the operating room, delivery room, emergency room or surgeon's office. The program combines theory and practice of surgical asepsis in the operating room, delivery room, emergency room and central service department. It is designed to develop knowledge and skill in maintaining aseptic techniques within the hospital area. Degree requirements include the successful completion of one-year coursework, followed with another year of course work at the College, combined with clinical training. Students must maintain a minimum 2.0 Q.P.A. in the freshman year to be eligible for clinical training during the second year of the program. Prerequisites for admission to the Operating Room Technician program call for the applicant to be a high school graduate or equivalent. The candidate also must have completed courses in Algebra 2, Chemistry and Biology, and have taken the SAT. Graduates of this program are eligible for the A.O.R.T. (A.S.T.) Certifying Examination approved by the A.O.R.T. (A.S.T.) Advisory Board composed of representatives from the Association of Surgical Technologists, Inc., Association of Operating Room Nurses, Inc., American Hospital Association and American College of Surgeons. The student enrolled in the Surgical Technology program must obtain a minimum grade of "C" (73%) in the following courses:

- MB 132 Anatomy & Physiology 1
- MB 232 Anatomy & Physiology 2
- MB 121 Microbiology
- AO 100 Foundations of ORT 1
- AO 200 ORT 2
- AO 300-301 ORT 3
- AO 401-402 ORT 4
- AO 400 Seminar/Surgical

Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Surgical Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
LF 120	Cultural Spanish	3		3
MB 132	Anatomy & Physiol. 1	3	2	4
NP 100	General Psychology	3		3
AO 100	ORT 1	3	4	5
		15	6	18

SEMESTER 2

LE 200	English Composition 2	3		3
MB 121	Microbiology	3	3	4
MB 232	Anatomy & Physiol. 2	3	2	4
AO 200	ORT 2	3	4	5
		12	9	16

SEMESTER 3

AO 300	ORT 3	2	12	5
AO 301	ORT 3	2	12	5
AO 302	Pharmacology/ORT	3		3
AA 102	Health Sci. & the Law	3		3
		10	24	16

SEMESTER 4

AO 400	ORT Seminar	3		3
AO 401	ORT 4	2	12	2
AO 402	ORT 4	2	12	2
	Soc. Science Elective	3		3
		10	24	16

AO 100 - ORT 1

5 credits

A combined lecture and laboratory course which develops competency in the performance of certain generally accepted routine procedures and techniques. Units in this course include: Related Nursing Procedures, Medical Terminology, Human Relations and First Aid.

Offered Fall Semester

AO 200 - ORT 2

5 credits

A continuation of AO 100. This course is a combined lecture and laboratory course in which the student will learn aseptic technique, instrumentation, draping techniques, positioning, etc. in preparing for their field experience. PREREQUISITE: AO 100.

Offered Spring Semester

AO 300 - 301 - ORT 3

10 credits

A general course presenting material in a sequence that will coincide with the practical experience of the technician in the operating room, delivery room and emergency room, under the direct supervision of Registered Professional Nurses. Students will be scheduled for clinical affiliation upon completion of Semester 1 and 2 requisites.

Offered Fall Semester

AO 302 - PHARMACOLOGY/ORT

3 credits

This course provides a background in the drugs used in the operating room, emergency room and delivery room. Handling, preparation, dosage, contra-indication and toxic effects are stressed. PREREQUISITES: Completing Semester 1 & 2.

Offered Fall Semester

AO 400 - SEMINAR/SURGICAL

3 credits

This course provides the total picture of the operating room patient in the surgery. Guest lecturers will elaborate on specialties involving surgical procedures as they relate to patient care. A review and discussion of the students' field experiences are an integral part of this course offering. A modular unit in Bio-Medical Instrumentation is included in this course. PREREQUISITE: AO 300.

Offered Spring Semester

AO 401 - 402 - ORT 4

10 credits

This course provides theoretical background to prepare an operating room circulator technician. Advanced operating room techniques, supervisory skills, interpersonal relationships, circulation duties, procedure analysis and ethics are included. A rotating clinical experience through surgical specialties dealing with: plastic surgery, ophthalmic surgery, neurosurgery, orthopedic surgery, urological surgery, vascular and chest surgery. PREREQUISITE: Completing Semester 1, 2, & 3.

Offered Spring Semester

AA 102 - HEALTH SCIENCES AND THE LAW

3 cr.

The dynamics of Law are introduced in lecture and discussion to show the relationship between Law, medicine and the professional in the Allied Health fields. Legislation concerning health care practices will be studied. Negligence, malpractice, informed consent, patient's rights and confidentiality of patient records are topics of concern to all health care workers. Controversial issues will be discussed.

Offered Fall Semester

Business Administration



BUSINESS ADMINISTRATION

The Business Administration Department offers a variety of programs to satisfy the needs of its students, whether it be the desire to transfer to a four-year college or university to complete the Baccalaureate Degree or enter the field of business directly from STCC. The main objective of the Department is to enable the student to develop those skills and proficiencies that are essential to the competent performance of professional work either in the classroom or on the job.

There is a comprehensive range of elective courses available in each of the three program offerings. These electives allow the student and faculty advisor to structure a program consistent with specific interests and goals. The following illustrates the three options at STCC:

Option 1: Associate in Science in Business Administration.

- General Business
- Accounting
- Finance
- Management
- Marketing

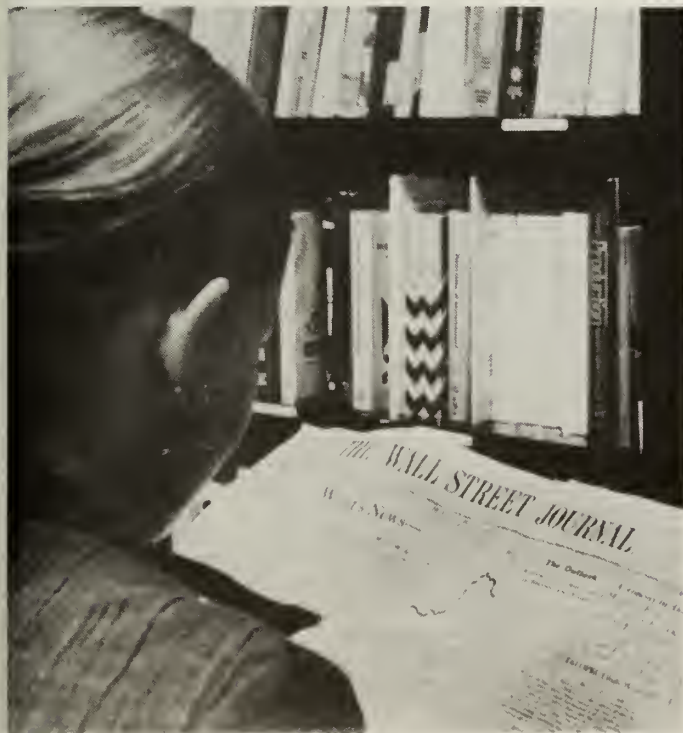
Option 2: Associate in Arts in Liberal Arts/General Studies. Emphasis in Business Administration.

Option 3*: BUSINESS ADMINISTRATION-Certificate, Programs (1 year).

- Small Business Management
- Administrative Bookkeeper

A minimum grade point average of 2.0 is required in both general and specialized areas to graduate.

* These programs are awaiting approval from the MBRCC. In the meantime, many of the individual program courses are offered by the Division of Continuing Education.



Challenge and CLEP exams covering a number of career and general courses are available at STCC and other colleges.

CORE CURRICULUM:

The Department of Business Administration provides a common curriculum in the Freshman year for all Associate Degree programs, exposing students to a variety of introductory business courses before they choose a degree and a major. The English and Math courses you will be assigned are based upon college placement tests. Depending on your results you may have to take courses LD-099 English Composition Skills or course MM-071 Basic Arithmetic, MM-081 Algebra I or MM-091 Algebra II. While such courses may have to be taken, they are considered remedial and will not count toward graduation in the Business Department.

Freshman Year

(Common Requirements for all programs)

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MM 143	Business Statistics I or			
MM 122	Finite Math 1 (Note 1)	3		3
BA 110	Accounting 1	5		4
BK 110	Principles of Management	3		3
BD 101	Computer Concepts	3	2	4
		17	2	17

SEMESTER 2

LE 200	English Composition 2	3		3
	Math or Humanities/ Social Science Elective	3		3
	(see note 1)			
BA 210	Accounting 2	5		4
BF 210	Intro. to Finance	3		3
BI 110	Principles of Marketing	3		3
	(see note 2)	17		16

(1) Transfer students should take MM122 Finite Math 1 in Semester 1 and MM222 Finite Math 2 in Semester 2. Career students should take MM143 Business Statistics 1 in Semester 1 and MM 243 Business Statistics 2 or a Humanity or Social Science elective in Semester 2.

(2) Students enrolled in the Division of Continuing Education who are in the Business Program and concentrating in the specialized areas of Insurance or Real Estate could substitute BP111 Principles of Insurance or BP110 Principles of Real Estate.

Option 1: BUSINESS ADMINISTRATION - Associate In Science Degree

The Department of Business Administration offers the following Associate in Science Degree majors to students:

- General Business
- Accounting
- Finance
- Management
- Marketing

The Associate in Science is a program with a minimum of 21 credit hours in general studies and the remaining 42 credits in business and general course electives. This is designed as a career program and/or a transfer program for many four-year colleges.

This degree should be considered if you are:

1. Interested in a business career and plan to seek a job after graduation.
 2. Desire a specialized degree in one of the five listed majors.
 3. Plan to transfer to a four-year institution which will accept the credits.
- The following illustrates the course sequence for the Associate Degree options available for the second year of study.

General Business

The General Business Program allows those students desiring an Associate in Science degree maximum flexibility in choosing Business Department electives covering the Accounting, Finance, Management and Marketing areas. The student receives a general overview and broad background in business subjects. This option may be preferred by those unable to decide on a major after completing the freshman core business program (described previously) and/or contemplating transfer to a four-year college which will accept the credits.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
NS 100	Intro. to Sociology (OR)			
NP 100	General Psychology	3		3
BB 310	Business Law 1	3		3
	Business Elective(Note 3)	3		3
	Business Elective(Note 3)	3		3
		15		15

SEMESTER 4

NS 200	Economics 2	3		3
BP 410	Business Law 2 (Note 4)	3		3
	Business Elective(Note 3)	3		3
	Business Elective(Note 3)	3		3
	General Elective	3		3
		15		15

(Note 3) Any Business Department course, but cannot include the Principle level courses mentioned in Note 2, under freshman core curriculum on the previous page.

(Note 4) Students enrolled in the Division of Continuing Education who are concentrating in the specialized areas of Insurance, Small Business Management, or Real Estate could substitute BB411 Insurance Law or BB412 Small Business Law or BB413 Real Estate Law.

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in General Business will be awarded.

Accounting

The demand for trained accountants has increased substantially with the growth and complexity of business and government. Students of accounting, therefore, must follow a program of training which prepares them to handle the financial accounts of private and public organizations. The modern accountant must have an appreciation of all aspects of business organizations as well as technical proficiency in the following accounting

flow; payroll and payroll tax procedures. Manpower projections have typically shown that accountants are among those who are in high demand and well paid.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
NS 100	Intro. to Sociology (OR)			
NP 100	General Psychology	3		3
BA 311	Cost Accounting	4		3
BA 310	Intermediate Acct. 1	4		3
BB 310	Business Law 1	3		3
		17		15

SEMESTER 4

NE 200	Economics 2	3		3
BA 410	Intermediate Acct. 2	4		3
BF 411	Managerial Finance (OR)			
BA 313	Federal Income Tax	3		3
BB 410	Business Law 2	3		3
	Elective: General	3		3
		16		15

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Accounting will be awarded.

Finance

A study of the field of finance exposes the student to the sources and uses of money. Such a curriculum includes courses in the raising of new capital, the efficient use of available funds, investing, money and banking, the Federal Reserve System and other basic studies related to the monetary system. Emphasis is given to analysis of financial statements as well as fiscal planning and management.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
NS 100	Intro. to Sociology (OR)			
NP 100	General Psychology	3		3
BF 310	Money & Banking	3		3
BB 310	Business Law 1	3		3
BA 312	Management Accounting	3		3
		15		15

SEMESTER 4

NE 200	Economics 2	3		3
BF 411	Managerial Finance	3		3
BB 410	Business Law 2	3		3
BF 410	Investments	3		3
	Elective: General	3		3
		15		15

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Finance will be awarded.

Management

The management program at STCC is designed to give the student a comprehensive background in the area of management. The curriculum is student-oriented primarily because its content respects the student's need for a challenging, thorough examination of the field of management, and because it provides a sound foundation for further study. In addition, specialized courses such as personnel, labor relations, finance, productions and operations research provide the student with the necessary knowledge to make positive contributions to any commercial or non-commercial organization.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
NS 100	Intro. to Sociology (OR)			
NP 100	General Psychology	3		3
BB 310	Business Law 1	3		3
BK 310	Personnel Management	3		3
BA 312	Management Accounting	3		3
		15		15

SEMESTER 4

NE 200	Economics 2	3		3
BB 410	Business Law 2	3		3
BK 410	Labor Relations	3		3
BK 411	Production Management (OR)			
BK 412	Techniques of Management	3		3
	Elective: General	3		3
		15		15

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Management will be awarded.

Marketing

In recent years, Marketing has become an increasingly important activity within our society and, in particular, in New England where there is a growing emphasis on the providing of services. Marketing is a broad field which includes defining and creating a market for a product, gauging and meeting customer wants and needs, advertising, sales, retailing, fashion and merchandising and related areas. Essentially, the study of marketing relates to the performance of business activities that direct the flow of goods and services from producers to consumers.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
NS 100	Intro. to Sociology (OR)			
NP 100	General Psychology	3		3
BB 310	Business Law 1	3		3
BI 310	Retailing	3		3
BI 311	Advertising & Promotion	3		3
		15		15

SEMESTER 4

NE 200	Economics 2	3		3
BB 410	Business Law 2	3		3
BI 411	Sales & Sales Management	3		3
BI 410	Consumer Behavior	3		3
	Elective General	3		3
		15		15

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Marketing will be awarded.

Option 2: ASSOCIATE IN ARTS in Liberal Arts/ General Studies Emphasis in Business Administration

The Associate in Arts option is designed for those business students planning on transferring to the University of Massachusetts. However, there may be other four-year colleges and universities that will recognize this program for transfer. It requires a minimum of 36 credit hours in general studies. The remaining 27 credits are in business and general electives. This program allows a great deal of flexibility in course selection. Thus, students should consider this degree if they:

1. Are seeking a greater choice of electives and a broader mix of Liberal Arts studies than is permitted in the other Business Administration options.
2. Desire to transfer to a specific four-year state institution, such as the University of Massachusetts, which requires its incoming juniors to meet the compact program.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
NE 100	Economics 1	3		3
xxxx	Literature Elective	3		3
(1)	Humanities Elective	3		3
NS 100	Intro. to Sociology	3		3
(2)	Elective	3		3
		15		15

SEMESTER 4

NE 200	Economics 2	3		3
NP 100	General Psychology	3		3
xxxx	Humanities Elective	3		3
(2)	Elective	3		3
(3)	Math or Science Elective	3		3
		15		15

Note: Students planning to transfer to the University of Massachusetts should take:

- (1) LE 203 Speech
- (2) Electives
BA 312 Managerial Accounting
BB 310 Business Law 1
- (3) MM142 Math Statistics or Laboratory Science

**Option 3: BUSINESS ADMINISTRATION CERTIFICATE
(1 year program)-Small Business Management
and Administrative Bookkeeping***

Two-semester programs leading to a Certificate can be extremely valuable to persons who do not have the time or the inclination to undertake a full two-year program. An additional advantage of this program is that the courses may be transferred to a two-year degree in business administration should the student elect to continue on for an Associate Degree.

With business today calling more and more for trained individuals with specific skills, certificate-level programs are well suited to fill the following needs.

- Small Business Administration: Individuals who are operating or planning to open small firms of their own will find that the Small Business Administration option is a particularly worthwhile and valuable course of study.
- Administrative Bookkeeping: Manpower studies indicate that the occupation of bookkeeper is in high demand in this region.

Certificate programs should be considered by the following persons:

1. Students who do not have the time to pursue a two-year degree program.
2. Students who wish to leave open the option to acquire an associate degree later.
3. Graduates of a two-year technical program who plan to enter fields requiring basic business skills.

*These programs are awaiting approval from the MBRCC. In the meantime, many of the individual program courses are offered by the Division of Continuing Education.

Small Business Management

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
BA 111	Small Business Acct. & Control			3
BP 112	Small Business Marketing	3		3
BP 341	Small Business Personnel Management	3		3
BB 412	Small Business Law	3		3
		15		15

SEMESTER 2

LE 207	Speech	3		3
BA 112	Small Bus. Planning, Control & Finance	3		3
BK 419	Office Mgt. & Control	3		3
(1)	Business Dept. Elective	3		3
BP 343	Small Bus. Mgt. Seminar	3		3
		15		15

(1) Suggested Business Department Electives:

- BA 313-Federal Income Taxes
- BA 312-Managerial Accounting
- BI 310-Retailing
- BI 311-Advertising and Promotion
- BI 411-Sales and Sales Management
- BI 412-Merchandising
- BK 410-Labor Relations
- BK 411-Production Management
- BK 417-Purchasing

**Administrative Bookkeeping
SEMESTER 1**

No.	Course Title	Class	Lab	Credits
BP 101	College Accounting 1	3		3
MM 130	Business Math	3		3
BZ 101	Typewriting 1	3		3
LE 201	Business English	3		3
BI 313	Consumerism	3		3
		15		15

SEMESTER 2

BP 202	College Accounting 2	5		3
BP 341	Small Bus. Personnel Mgt.	3		3
BZ 201	Typewriting 2	3		3
(1)	Business Dept. Elective	3		3
BK 419	Office Mgt. & Control	3		3
		17		15

(1) Suggested Business Department Electives:

- BF 420 Small Business Management
- BF 313 Personnel Financial Planning
- BA 313 Federal Income Tax
- BP 111 Principles of Insurance
- BF 410 Investments



In order to assist the reader with the course descriptions on the following pages, the list below summarizes the various courses that fall within the specific major areas of concentration:

ACCOUNTING ELECTIVES

Intermediate Accounting 1
Intermediate Accounting 2
Cost Accounting
Advanced Cost Accounting
Federal Income Tax 1
Federal Income Tax 2
Auditing
Governmental & Fund Accounting

FINANCE ELECTIVES

Money and Banking
Managerial Finance
Investments
Credit Management
Financial Statement Analysis
Personal Financial Planning
Trust Functions and Services
Loan Financing and Administration
Bank Management

MANAGEMENT ELECTIVES

Managerial Accounting
Personnel Management
Labor Relations
Production Management
Techniques of Management
Small Business Management
Business Policies
Office Management & Control

INDUSTRIAL

Managerial Accounting
Labor Relations
Supervisory Management
Production Management
Production Planning & Control
Work Methods & Design
Purchasing
Principles of Transportation 1
Principles of Transportation 2

GENERAL BUSINESS ELECTIVES

REAL ESTATE

Principles of Real Estate
Residential Appraisal
Commercial & Industrial Appraisal
Real Estate Investments & Finance
Real Estate Management
Real Estate Law

INSURANCE

Principles of Insurance
Property Insurance
Casualty Insurance
Life, Accident & Health
Group & Social Insurance
Insurance Law

SMALL BUSINESS MANAGEMENT

Small Business Accounting & Control
Small Business Marketing
Small Business Planning, Control & Finance
Small Business Personnel Management
Small Business Seminar
Small Business Law
Small Business Practicum

TRAVEL AND TOURISM

Principles & Development of Tourism 1
Principles & Development of Tourism 2
Travel Agency Operation

MARKETING ELECTIVES

Advertising and Promotion
Retailing
Sales and Sales Management
Consumer Behavior
Consumerism
Merchandising
Materials Design & Analysis
Fashion Coordination

ACCOUNTING

BA 110-ACCOUNTING 1

4 credits

An introductory course designed to present to the student the nature of accounts and the basic structure, concepts and principles of accounting. Major emphasis is placed upon the recording, classifying and summarizing of the financial data generated within a business enterprise. The various aspects of the accounting cycle are examined; included are the proper journalization of business transactions, the preparation of financial statements and the computation of depreciation and inventory valuation. Various internal control procedures including the voucher system are examined in detail.

Offered Fall & Spring Semester

BA 111 - SMALL BUSINESS ACCOUNTING & CONTROL

3 credits

The accounting concepts and principles presented in this course are designed to meet the needs of the small business manager. The subject is approached from the point of view of the user of accounting information rather than that of the accountant who supplies the information. Methodology and procedures used to collect, summarize, analyze and repeat accounting information is presented from a management perspective. Accounting topics which have proven through time and experience to be vital for the efficient operation of the small business will be covered including accounting for planning and control; inventory and accounts receivable management; preparation and analysis of financial statements; budgets and other internal reports; payroll; federal and state taxes; and break-even analysis.

BA 112 - SMALL BUSINESS PLANNING, CONTROL & FINANCING

3 credits

This course covers the procedures and techniques of accounting analysis applicable to the managerial functions of credit and collection, cash budgeting control and planning. The student will also be required to evaluate the different methods and costs of obtaining capital, culminating in the formulation of a complete proposal package for a small business of his choice. **PREREQUISITES:** BA 111.

BA 210-ACCOUNTING 2

4 credits

Enlarging on the fundamental principles outlined in BA 110 Accounting 1 leads the student into examination of the multiple forms of ownership; i.e. partnerships and corporations. The various aspects of accounting relating to these organizations are analyzed. Statement

analysis and funds flow are studied with a view toward managerial decision-making. As part of today's management, information systems, cost accounting, and budgeting controls are explored in detail. PREREQUISITE: BA110.

Offered Fall & Spring Semester

BA 310-INTERMEDIATE ACCOUNTING 1 3 credits
This course is designed to provide the student with a more comprehensive study of the generally accepted accounting principles and attempts to develop within the student the ability to analyze clearly financial statements. The balance sheet, income statement, and retained earnings statements are thoroughly scrutinized. The nature, importance and presentation of the following balance sheet accounts are examined in detail: Cash, Acct. Rec., Inventory Investments. PREREQUISITE: BA210

Offered Fall Semester

BA 311-COST ACCOUNTING 3 credits
This course provides an overview of the nature and purpose of cost accounting. Within the framework of the course, the student is encouraged to develop a conceptual understanding of the interrelationships of cost data, budgets, standards and reports and their logical continuity, beginning with accumulation of cost data, through the necessary procedures and routines and ending with the final reports for management analysis. Topics included: cost concepts and techniques; job order costing; planning and controlling product costs; budget planning and expenditures; flexible budgets; standard costing; process costing; and by-products and joint products costing. PREREQUISITE: BA210

Offered Fall Semester

BA 312-MANAGERIAL ACCOUNTING 3 credits
An introduction to the internal uses of accounting for management planning and control. The point of view will be on the use rather than the construction of accounting data. Areas of study include the uses of product cost information, volume-profit relationships, variance analysis, budgeting, long-range planning, responsibility accounting and the effect of price level changes. (This course is specifically for business majors other than accounting majors) PREREQUISITE: BA210.

Offered Fall Semester

BA 313-INTRO. TO FEDERAL INCOME TAXES 3 cr.
This course presents a comprehensive explanation of the Federal structure and the accepted practice used in applying tax principles in specific problems as they relate to the preparation of returns involving individuals; Massachusetts income taxes as they affect individuals are also reviewed. PREREQUISITE: BA210

Offered Spring Semester

BA 410-INTERMEDIATE ACCOUNTING 2 3 credits
The course provides a further examination of the nature, importance and presentation of specific balance sheet items. Plant assets, intangible assets, current and long-term liabilities and Stockholder Equity accounts are all covered in detail. The increasing importance of the funds flow statement is discussed and preparatory procedures are examined. Time permitting, some specialized financial analysis techniques are explored. PREREQUISITE: BA310.

Offered Spring Semester

BA 412 - ADVANCED COST ACCOUNTING 3 credits
A continuation of BA311. Includes the study of process costing, standard costing, gross profit analysis, direct costing and contribution margin, profitability analysis, break-even and cost-volume analysis, differential cost analysis, capital budgeting, product pricing and linear program. PREREQUISITE: BA311.

BA 413-FEDERAL INCOME TAX 2 3 credits
This course presents a continuation of introduction to Federal Income Tax 1. It presents a comprehensive explanation of the Federal Income Tax laws as they affect partnerships, corporations, estates, gifts, and trusts. PREREQUISITE: BA312.

BA 417 - GOVERNMENTAL & FUND ACCOUNTING 3 cr.
Specialized area of accounting developed in answer to the special need of non-profit organizations. Covers principles of fund accounting as applied to governmental units and private, non-profit, educational institutions and hospitals. Particular emphasis on accounting for municipal governments. PREREQUISITE: BA210.

BA 418 - AUDITING 3 credits
The philosophy of the auditing process and its applications. Preparation of audit work papers. Auditor's reports, opinions, and significance to various interested parties. Internal auditing procedures. Development of audit programs, generally accepted auditing procedures; review of internal control systems. Particular emphasis on professional ethics and legal responsibilities of the auditor; auditing of EDP systems. PREREQUISITE: BA310.

BP 101-COLLEGE BOOKKEEPING I 3 credits
An introductory course covering the basic structure, concepts and principles of accounting. Emphasis is placed upon the daily record keeping, classification and summarization of the financial information which flows within a business enterprise. The accounting cycle including statement presentation is examined along with such areas as sales, purchases, cash, receivables, payables, payroll and taxes. (This course is restricted to the secretarial, administrative bookkeeper, technology, or data-processing students.) Transfer students should be taking BA110.

Offered Fall and Spring Semesters

BP 103-MEDICAL ACCOUNTING 3 credits
An introductory course covering the basic structure, concepts and principles of accounting. Emphasis is placed upon the daily record keeping, classification and summarization of the financial information which flows within a medical office. The accounting cycle including statement presentation is examined along with such areas as cash, receivables, payables, payroll and taxes. (This course is restricted to Secretarial Science students.)

Offered Spring Semester

BP 105-MEDICAL OFFICE ACCOUNTING AND MANAGEMENT 3 credits
Medical Office Accounting and Management offers a complete background of accounting concepts and practice for the cash basis service business, with particular emphasis on the specific constraints of accounting for a medical office.

Additional exposure to relevant theory and record keeping for medical insurance requirements and computer systems is given. Other management lectures included are in the area of personnel, office layout, public relations in patient handling, staff coordination, development of effective collections systems, proper tax reporting, and supplies control. (This course is restricted to Allied Health students)

Offered Spring Semester

BP 202-COLLEGE BOOKKEEPING 2

3 credits

The course expands upon the fundamentals learned in College Accounting 1 and examines the role of accounting in the various types of business enterprises. Records maintained on the accrual basis, accounting for long-term debts, investments and deferred and payable items are mastered and integrated with the complete accounting cycle. **PREREQUISITE:** BP101 or equivalent. (This course is restricted to the secretarial or administrative bookkeeper or the data processing student. Transfer students should be taking BA210).

Offered Fall and Spring Semesters

FINANCE

BF 110-INTRODUCTION TO FINANCE

3 credits

This course is designed to acquaint the student with the manner in which the financial system functions and with the techniques used to reach financial decisions. Major topics to be studied include financial institutions and markets, financial planning and forecasting, investing in plant and equipment, securities analysis and the managing and financing of assets. Special emphasis is given to the interdependence of financial decision-making and the financial environment. Offered Fall and Spring Semesters

BF 111 - PRINCIPLES OF BANKING

3 credits

This course is designed to acquaint the student with the basic principles underlying the major objectives of banking operation, the social and economic responsibilities of the bank in the community, the several relationships between a bank and its depositors and an examination of the expanding range of banking services.

BF 310-MONEY AND BANKING

3 credits

The nature and functions of money are examined in considerable detail. The role of the commercial banking system as a creator of money and the central banking system as regulator of the money supply is analyzed. The course includes an extensive study of non-bank financial intermediaries. Open only to seniors.

Offered Fall Semester

BF 312 - CREDIT MANAGEMENT

3 credits

This course provides an examination and analysis of credit as a business instrument in the contemporary environment. Stress is placed on the functions of the credit analyst and credit manager. Included in these are the analysis of credit markets, the study of credit instruments and the determination of credit worthiness. **PREREQUISITE:** BA210.

BF 313-PERSONAL FINANCIAL PLANNING

3 credits

The course is designed to provide the student with an analysis of the various components making up the financial planning. From this

basis, the various products available are examined in depth. These include the various types of insurance including Life, Accident and Health, Property, Liability and Disability Income. Annuities are also included within this section. In addition various investments available are discussed. These include savings, stocks, bonds, mutual funds, tax-sheltered investments and commodities. Interwoven throughout these discussions is the potential impact these investments have on an individual's federal income tax. The last major areas to be investigated are those of estate analysis and retirement planning. Alternative ways to handling these areas are presented and discussed.

BF 314 - TRUST FUNDS AND SERVICES

3 credits

This course introduces students to the organizational structure of a trust department and its wide variety of services. Personal trust, insurance trust, corporate and employee trust and community and institutional trust are examined. The course inquires into the administration of these various trusts and analyzes the legal aspects and problems of property rates, wills and the settlement of estates. The historical background of trust and institutions is treated. **PREREQUISITE:** BF111.

BF 410-INVESTMENTS

3 credits

This is a beginning course in investment management with special emphasis on the principles governing individual and institutional investment programs. Topics covered include the mechanics of investment, investment media, securities analysis and portfolio management. Open to seniors only. Offered Spring Semester

BF 411-MANAGERIAL FINANCE

3 credits

The principle focus of Managerial Finance is on decisions and actions that are undertaken in light of the firm's objectives. Certain key concepts and commonly used tools of financial analysis are developed. Included are such topics as ratio analysis, sources and the use of funds analysis and financial control techniques. This material provides a useful overview of finance, and the ideas and terminology developed here facilitate an understanding of all the other parts of the course. Topics to be covered include decisions involving long-term assets, sources and forms of long-term financing, financial structure and leverage and cost of capital calculations. **PREREQUISITE:** BA210. Offered Spring Semester

BF 412 - FINANCIAL STATEMENT ANALYSIS

3 cr.

The evaluation of management's performance and the determination of the future condition of the firm is undertaken in this course. Balance sheet and income statement data provide the necessary information to evaluate and analyze the condition of the firm in terms of return on capital invested and use of working capital. The tools and techniques used in this course include ratios, sources and uses of funds analysis, cash flow projection and budgetary planning for current and future business operations. **PREREQUISITE:** BA210.

BF 413 - LOAN FINANCING & ADMINISTRATION

3 cr.

An investigation of the sources, costs and availability of funds for business and personal

uses. The study stresses an analysis of short-term and long-term loans for business, including accounts receivable financing, consumer installment and mortgage credit. PREREQUISITES: BF111-BA210.

BF 414 - BANK MANAGEMENT 3 credits
This course analyzes the manner in which bank policy is formulated. It reviews the responsibility of management for organizational planning, personal placement and for control over specific bank activities. The role of management in the deposit function in the employment of bank funds, in loans and investments and the trust operations, is carefully examined. This course is chiefly concerned with the art of management. PREREQUISITES: BF111, BA210. Courses will be offered subject to sufficient enrollment.

LAW

BB 310-BUSINESS LAW 1 3 credits
The primary purpose of a course in business law is to develop an understanding of the legal framework of business-the basic principles of law that apply to business transactions. Since the students of the course are not seeking training as lawyers, preventative law becomes an important objective. Emphasis is spent on contracts, agency, employment, personal property and bailments. Offered Fall & Spring Semester

BB 410-BUSINESS LAW 2 3 credits
The purpose outlined in Business Law 1 is continued with emphasis upon the Law of Sales, commercial paper such as promissory notes, drafts and checks, real property arrangements such as Landlord & Tenant, Leases, Wills and Intestacy and Bankruptcy. PREREQUISITE: BB310. Offered Fall & Spring Semester

BB 411 - INSURANCE LAW 3 credits
The course is for the purpose of giving students an understanding of insurance and the manner in which the machinery of the law is used and useful for the regulation of business relationships and the enforcement of rights, especially in the business of insurance. Topics studied: insurable interest; making of the contract; premiums; ascertainment and control of risk; waiver and estoppel; construction of Fire, Liability, Life Accident and Group contracts; and the legal doctrines and remedies common in insurance litigation. Special emphasis on the Law of Torts, under which liability for bodily injuries, damage to property and other kinds of injuries resulting from wrongful acts is created. Because of its importance in connection with Public Liability insurance, special stress will be placed on the Law of Negligence. Other forms of torts will be considered and the extent to which they are or can be covered by Liability insurance explained.

BB 412 - SMALL BUSINESS LAW 3 credits
This course is designed to familiarize the student with his legal rights and responsibilities. Included are Law of Sales, security devices, real property, customer and employee liabilities, governmental regulation and labor laws, personal and business tax liabilities and business estate planning. Lecture and case analysis will be combined to examine and eval-

uate the complexities of the subject matter outlined above.

BB 413 - REAL ESTATE LAW 3 credits
This course aims to acquaint the participant with the legal processes and instruments involved in real estate transactions; it does not attempt to supplant the services of the attorney. Included are titles, easements, deeds, contracts, agreements of sale, mortgages, foreclosures and redemptions, liens, wills and probate, tenant and landlord relations, leases and conveyancing. Public aspects of real estate business, such as construction and zoning laws, taxes and insurance are considered.

BP 311-MEDICAL LAW & ETHICS 1 credit
The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes. Offered Fall Semester

BP 312-MEDICAL LAW FOR HEALTH PERSONNEL 3 cr.
This course will cover the relationship between The Law and Society as primarily applicable to the practice of medicine. Discussions will cover the sources and type of law, authority and liability of medical and paramedical personnel and their licensure and registration. Medical ethics, confidentiality, insurance and negligence will be considered along with torts, contracts and crimes. Courses will be offered subject to sufficient enrollment.

MANAGEMENT

BK 110-PRINCIPLES OF MANAGEMENT 3 credits
This course provides the student with an introduction to the science and the art of management. A fundamental premise of the course is that management skills and techniques are transferable among various kinds of organizations (e.g., business, governmental, educational) through which the objectives of a society are pursued. The course provides particular emphasis in the areas of organizational structures and processes, decision-making, planning, leadership, motivation, communication and control. Offered Spring Semester

BK 310-PERSONNEL MANAGEMENT 3 credits
The primary aim of a course in personnel management is to provide an understanding of the role of the personnel department in the administration of the personnel program and the processes relating to it. The major emphasis is upon the role of department supervisors, managers and their superiors in the management of subordinate personnel according to the objectives and policies of the personnel program of the organization. Areas of study include the basic personnel processes that are involved in the procurement, development and maintenance of these human resources, including those relating to the selection, training, motivation and remuneration of employees and in maintaining relations with their unions. PREREQUISITE: BK 110. Offered Fall Semester

BK 318 - PRINCIPLES OF TRANSPORTATION 1 3 cr.
A general course in basic transportation principles. Emphasis on the history of transportation up to modern-day transportation. Some practical information necessary for the movement of goods. Discussions will include bills of lading, various freight terms, water transport, land transport with special emphasis on rail & truck transportation. PREREQUISITE: BK110.

BK 410-LABOR RELATIONS 3 credits
This course is designed to expose the student to the philosophy, activities and objectives of the American labor movement. Areas of analysis include the history of unionism, the collective bargaining process, labor legislation and the search for institutional security. Emphasis is placed upon the dynamics of the expanding area of labor management relations. PREREQUISITE: BK110.
Offered Spring Semester

BK 411-PRODUCTION MANAGEMENT 3 credits
This is a practical course emphasizing the organization and operation of the production system. Included are capital equipment utilization, work measurement and methods analysis, cost, quality and production control, job evaluation and wage incentive systems. Consideration is given to the quantitative aspects of modern management and their value to the executive. PREREQUISITE: BK111.
Offered Spring Semester

BK 412-TECHNIQUES OF MANAGEMENT 3 credits
Application of principles and analytical techniques for planning and control are presented within a problem solving context. Topics to be considered include decision theory, waiting-line methods, linear programming, network programs, inventory models, and forecasting. In addition, participation in the management of a firm in a simulated industry is required. Students, organized into management teams, apply their knowledge of various techniques of management and economics in a competitive struggle for profit and market share. PREREQUISITE: BK110-MM122.
Offered Spring Semester

BK 413 - SUPERVISORY MANAGEMENT 3 credits
A study of the skills and techniques needed to perform effectively supervisory work, especially those dealing with people and difficult work situations. More specifically, some of the skills covered are oral and written communication, leadership, grievances, training, rating, promotion, quality and quantity control and labor management relations. Cassettes, records and text will be used to bring actual supervision cases into the classroom for discussion as well as written analysis. PREREQUISITE: BK110.

BK 414-BUSINESS POLICIES 3 credits
This course seeks to develop within the student an understanding of the overall administrative process through an integrating case-study approach. Particular emphasis is given to the role of planning and control in the functional areas of business management, i.e., production, marketing and finance. PREREQUISITES: BK110 B110, BA210.

BK 415 - PRODUCTION PLANNING & CONTROL 3 cr.
Study of management controls as applied to

production: The development of the functions of routing, scheduling, activating and monitoring; emphasizing production and material control systems, plant and equipment analysis and budgeting, quality control and inspection, statistical quality control, maintenance analysis and production efficiency. PREREQUISITE: BK411.

BK 416 - WORK METHODS & DESIGN 3 credits
The study of the evolution of identifying, describing and analyzing the problem and the development of motion and time study. Topics covered include motion analysis and work simplification, theory and practice of time study, work performance evaluation and wage incentive and the developing, selecting, installing of new methods. PREREQUISITE: BK411.

BK 417 - PURCHASING 3 credits
This course is designed to introduce the student to the world of modern purchasing. An overview of purchasing management and organization along with policies and procedures is presented. The basic legal aspects of purchasing, purchasing ethics, sources of supply and value analysis are explored and presented for class discussion. Modern methods of purchasing are reviewed using the case method approach. PREREQUISITE: BK110.

BK 418 - PRINCIPLES OF TRANSPORTATION 2 3 cr.
A course designed to give those interested in a possible transportation career a working knowledge of traffic management & transportation sales, duties & responsibilities in various fields of transportation. Discussions will include terminal & special line-haul services, transportation costs, traffic management's role in decision-making. PREREQUISITE: BK318.

BK 419 - OFFICE MANAGEMENT & CONTROL 3 credits
This course exposes the student to the problems of the Office Manager including the major ideas of what has to be done, how it is going to be done and who is going to do it. In addition, a study of the control procedures on information and personnel is reviewed. PREREQUISITE: BK110.

BK 420-SMALL BUSINESS MANAGEMENT 3 credits
This course is designed to expose the student to the problems of starting, operating and evaluating the effectiveness of the small business. Topics covered include the various forms of organization, financing, cost structure, location, sources of personnel, marketing and competition. PREREQUISITES: BA210, BK110.
Offered Spring Semester

BP 110-PRINCIPLES OF REAL ESTATE 3 credits
This course covers the basic laws and principles of Massachusetts Real Estate. It touches upon legal processes and instruments involved in real estate operation, titles, deeds, mortgages, liens, contracts and leases. It gives understanding, background & terminology necessary for advanced study in specialized courses. This could well assist those preparing for the license examination. Offered Spring Semester

BP 111-PRINCIPLES OF INSURANCE 3 credits
The historical background and developing and understanding the basic principles of insurance as well as the nature and operation of the insurance business. Emphasis given to the

principles which underlie the entire field of insurance. Understanding is developed in the fundamental areas of indemnity insurable interest, co-insurance, subrogation, proximate cause, other insurance, risk, requisites of insurable risk, deductibles, valued policies, probability and many others. The important functional areas of rating, underwriting, marketing and adjusting are considered as well as the subjects of regulation, reinsurance and company organization. The powers and functions of insurance agents and brokers.

BP 321 - PROPERTY INSURANCE 3 credits
Emphasis is placed on understanding coverage, policy provisions and concepts common to property insurance. Contracts and forms studied include standard fire policy, extended coverage endorsement, dwelling and contents forms, building and contents forms, crime policy, business interruption forms, daily customer's policy and the property coverage provided by multiple-line contracts. PREREQUISITE: BP111.

BP 322 - CASUALTY INSURANCE 3 credits
Emphasis placed on understanding coverages, policy provisions and concepts peculiar to the common casualty, surety and multiple-line contracts. Contracts studied include the automobile policy, workmen's compensation and Employers Liability Policy, Owners', Landlords' and Tenants' Liability Policy, Comprehensive General Liability Policy, Comprehensive Personal Liability Coverage and the Liability Insurance aspects of modern multiple-line contract. PREREQUISITE: BP111.

BP 323 - LIFE, ACCIDENT & HEALTH INSURANCE 3 credits
A basic course in the background and development of Life Insurance, its economic functions and its principles and practices. Consideration will be given to the history of Life Insurance, types of contracts, the functions of Life Insurance settlement options, special policies; mortality tables, the premium, the reserve surrender values, dividends, selection of risks, substandard Insurance, participating and non-participating Insurance, home office and agency organization, state supervision and regulation and other general aspects of the subject. PREREQUISITE: BP111.

BP 324 - GROUP & SOCIAL INSURANCE 3 credits
Analysis of group insurance; including products, marketing, underwriting, re-insurance premiums, and reserves. Also, various governmental and private programs related to the economic problems of death, old age, unemployment and disability. PREREQUISITE: BP111.

BP 331 - RESIDENTIAL APPRAISAL 3 credits
This course covers the fundamentals of appraising as applied to residential properties. Included are purposes of appraisals, varying concepts of valuation, acquisition of data used for appraisals covering tables, techniques, special factors and final estimates. Writing of reports and preparation of expert testimony for court purposes are given. PREREQUISITE: BP110.

BP 332-COMMERCIAL & INDUSTRIAL APPRAISAL 3 cr.
The principles covered in Residential Appraisal are applied to commercial and industrial pro-

perties. An analysis of business neighborhoods covering apartment buildings and hotels as well as all types of industrial and manufacturing properties is made. PREREQUISITE: BP331.

BP 333 - REAL ESTATE INVESTMENTS & FINANCING 3 credits
Various opportunities and inherent problems in the investment in real estate are reviewed. In addition, the fundamentals of financing real estate are covered. Included are instruments of finance, particular applications to leases, bond issues, mortgage lending and income tax effects as a factor. Competing agencies of federal financing organizations and real estate brokers are reviewed. PREREQUISITES: BP111, BF110

BP 334 - REAL ESTATE MANAGEMENT 3 credits
This course covers the real estate operator's functions in exchange and speculation in properties, financing and developing, whether he is running his own business or a department in a brokerage firm. Problems inherent in managing apartments and cooperative apartments are reviewed. PREREQUISITE: BP110

BP 341 - SMALL BUSINESS PERSONNEL MANAGEMENT 3 credits
The central theme of this course is the personnel responsibility and function of the small business manager. Full attention is devoted to the traditional personnel topics and functions including personnel policies, programs and methodologies; employee selection; training; labor relations; pay administration; employment laws; health and safety; benefits and services. In addition, realistic case problems are presented throughout the course. This will provide the students with an opportunity to apply theory, concepts and principles so that they can adapt their knowledge and skills to particular circumstances. PREREQUISITE: BK110.

BP 342 - SMALL BUSINESS PRACTICUM 3 credits
The student applies knowledge obtained in previous courses to a real business situation. This is done by assigning a small group of students to a new or existing business that is in need of management consultation in the various problematic aspects of the business; including technical assistance in the development of a loan proposal, financial projections and business planning. This course provides the student with the same valuable experience that co-op offers the students in other academic disciplines. PREREQUISITES: BA112, BP112.

BP 343 - SMALL BUSINESS SEMINAR 3 credits
A variety of problems encountered by small businesses are discussed and evaluated in this course. The student must apply basic business concepts and tools acquired in previous courses to problematic situations presented by way of case studies and small business game simulation. Guest lecturers also will be brought in to discuss management problems and techniques for solving these problems, bringing to the class a different perspective and, it is hoped, fresh ideas. PREREQUISITES: BA112, BP112, BP341, BI311.

BP 351-PRINCIPLES & DEVELOPMENT OF TOURISM 1**3 credits**

Introduces to the student the numerous aspects of tourism as related to recreational facilities, industrial development, historical points of interest, etc. Besides a study of domestic tourism and business travel, international topics such as documentation, health certificates, tourist cards, money exchange, will be treated.

BP 352-PRINCIPLES & DEVELOPMENT OF TOURISM 2**3 credits**

An in-depth study of pricing, regulations, regulatory bodies governing travel and transportation. Scheduling and fare computation are discussed. PREREQUISITE: BP351.

BP 353 - TRAVEL AGENCY OPERATION**3 credits**

The primary objective of this course is to analyze the steps required to staff and develop a functional and profitable agency. The student is exposed to a point-by-point analysis of various phases of Travel Agency Development, such as: location, interior layout and design; consumer responsibilities and office management techniques. PREREQUISITE: BP352.

BX 316 - COLLECTIVE BARGAINING IN THE PUBLIC SECTOR**3 credits**

A brief overview of the legal and historical framework of collective bargaining followed by a detailed analysis of the process as it affects public employees. Special emphasis will be directed toward the Massachusetts statute and its application to various employee groups.

Courses will be offered subject to sufficient enrollment.

MARKETING

BI 110-PRINCIPLES OF MARKETING**3 credits**

This course emphasizes a well-rounded basic approach that provides maximum exposure to the role of marketing in the economy and in the firm. To achieve this exposure, an overview is presented of the marketing process and a detailed description of major marketing institutions and functions. The work of marketing is also linked to the whole environment by examining the responsibilities of marketers to our society from the point of view of consumerists and the law. The course will service two types of students—those who want some knowledge of the activities involved in the flow of goods and services from producers to consumers as part of their general education and those who plan a career in marketing.

Offered Fall & Spring Semester

BI 310-RETAILING**3 credits**

This course will introduce the student to the field of retailing and will provide the theoretical and technical knowledge necessary for retail employment and middle management. An overview of retailing is presented including such vital areas as organizational structures, merchandising practices and procedures, promotional activities, store planning and control.

PREREQUISITE: BI110. Offered Fall Semester

BI 311-ADVERTISING AND PROMOTION**3 credits**

The student is exposed to the field of advertising. Included is the function of advertising and the advertising agency, the design of the copy and the layout and the comparison of the various advertising media. In addition, the advertising promotion, cost, budget and control will be reviewed, utilizing the case study method where feasible. PREREQUISITE: BI110.

Offered Fall Semester

BI 313 - CONSUMERISM**3 credits**

The development of an analytical structure within which the underlying issues facing the marketing profession are studied. The pre-purchase, purchase and post-purchase phases of a transaction receive detailed consideration in terms of the legal obligations of the buyer, the seller and the financier. Contemporary consumer concern with advertising, pricing and selling practices is examined along with legal requirements covering product safety, warranties, liability and consumer recourse. PREREQUISITE: BI110.

BI 410-CONSUMER BEHAVIOR**3 credits**

The aim of this course is to understand why people buy as the foundation for developing concepts for meeting consumer needs through selling, advertising, distribution and related activities. Behavioral considerations affecting consumer purchase decisions are analyzed. These include the personality, motivational, cognitive and attitudinal aspects, along with the social influences which affect consumer interaction with business firms. PREREQUISITE: BI110.

Offered Spring Semester

BI 411-SALES AND SALES MANAGEMENT**3 credits**

This course will introduce the student to the fields of salesmanship and sales management. The salesmanship portion of the course will be presented through programmed learning, presenting the theories, concepts, techniques and processes involved in selling. The sales management section will include the systems, policies and procedures used to implement business plans. Such functions as planning, organizing, and reporting, controlling and forecasting will be utilized to analyze the field of marketing management. PREREQUISITE: BI-110

Offered Spring Semester

BI 412-MERCHANDISING**3 credits**

A study of the principles and procedures used in selection, promotion and selling of hard and soft good merchandise in retail stores to develop an understanding of the major considerations of buying, inventory control, pricing and consumer buying motives. PREREQUISITES: BI310.

BI 413 - FASHION COLOR DESIGN & ANALYSIS**3 credits**

A study of the nature, source, characteristics, applications and uses of basic materials. The processes of manufacturing are reviewed. Current concepts of color and design are explored. Field trips are taken as well as sample materials brought into the classroom. PREREQUISITE: BI412.

BI 414 - FASHION COORDINATION 3 credits
Involves the study of the principles, specialized fashion techniques and sources of information utilized by fashion directors and coordinators in wholesale and retail organization. Workshops projects such as fashion shows, fashion clinics, written and oral fashion reports and forecasts will be assigned. PREREQUISITE: BI413.

BP 112 - SMALL BUSINESS MARKETING 3 credits
The various aspects of the marketing function are presented in this course. The course will provide a conceptual treatment of the marketing system, markets and managerial issues peculiar to a small business; focusing on purchasing, controlling and displaying merchandise, determining the target market, advertising, promotion pricing, distribution and competition.

Courses will be offered subject to sufficient enrolment.

STATISTICS

MM 143-BUSINESS STATISTICS 1 3 credits
Business statistics is designed to provide a clear, concise, intuitive approach to statistics. The elementary statistical methods used in the business and economics are examined, with emphasis on the basic descriptive and inferential techniques for presenting, analyzing and interpreting gathered data. PREREQUISITE: MM091, MM093

Offered Fall and Spring Semester

MM-243 BUSINESS STATISTICS 2 3 credits
Application of statistics as a decision making tool in the areas of accounting, finance, manufacturing, and marketing are studied. The course is designed so that the student gains some proficiency in and appreciation for the use of statistics as applied in the major areas of business. PREREQUISITE: MM143.

Offered Fall and Spring Semester

Courses will be offered subject to sufficient enrolment.



DATA PROCESSING

The Data Processing Department offers a variety of programs to satisfy the needs of most students. In recent years the utilization of computers has extended into every area of business, whether large or small, into most state and local government agencies. As a result, the need for trained personnel in various areas of computer utilization has increased sharply in the past few years and is continuing.

The main objectives of the Department are to enable the student to develop skills and proficiencies that are essential to the performance of professional work whether it be in the classroom or on the job.

There is a range of elective courses available in the degree program offerings. These electives allow the student and faculty advisor to structure a program consistent with specific interests and future goals of the student.

All candidates for the Associate in Science degree in Data Processing must complete the curriculum as shown in the catalog at the time of acceptance into the college program whether it be the day or evening college. A minimum grade point average of 2.0 is required in both general and specialized areas for graduation. In some cases work experience may be recognized for course credit, e.g., Co-op. Also we have challenge exams covering a number of career and general courses available at STCC. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Data Processing will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
	Math Elective (Note 1)	3		3
LE 100	English Composition 1	3		3
BK 110	Principles of Management	3		3
BD 101	Computer Concepts	3	2	4
BD 102	Programming 1 (RPG)	3	2	4
		15	4	17

SEMESTER 2

	Math Elective (Note 1)			
	Humanities/Social Sciences Elective	3		3
LE 202	Technical Report Writing	3		3
BP 101	College Accounting 1 or			
BA 110	Accounting 1	5		4
BD 210	D/P Acc. Systems & Applications	3		3
BD 202	Programming 2 (RPG 2)	3	2	4
		17	2	17

SEMESTER 3

BP 202	College Accounting 2 or			
BA 210	Accounting 2 (Note 2)	5		4
BD 305	Assembler Language (BAL)	3	2	4
BD 302	Programming 3 (Cobol 1)	3	2	4
	Elective (Note 3)	3		3
BD 310	D/P Advance Systems	2	2	3
		16	6	18

SEMESTER 4

	Elective General (Note 4)	3		3
BD 402	Programming 4 (Cobol 2)	3	2	4
BD 410	Programming Project	1	4	3
	Elective: (DP or Business)	3		3
		10	6	13

NOTES:

1. Students planning to transfer should take MM 122 (Finite Math 1) in Semester 1 and MM 222 (Finite Math 2) in Semester 2. Career students should take MM 143 (Business Statistics 1) in Semester 1 and MM 243 (Business Statistics 2) or a Humanities or Social Science elective in Semester 2.

2. Students have two options to choose from to complete their Accounting Requirements:

Option 1 - BA 110/BA 210 Accounting 1 & 2

Option 2 - BP 101/BP 202 College Accounting 1 & 2

These courses must be completed in sequence.

3. The following is a list of suggested elective courses a student may choose:

NE 100/NE 200	Economics 1 & 2
BA 311	Cost Accounting
BA 310/BA 410	Business Law 1 & 2
BF 110	Principles of Finance
BI 110	Principles of Marketing
BA 312	Managerial Accounting
BD 306	Fortran Programming
BD 411	Management Info. Systems

4. All course selections must be approved by advisor.

BD 101-COMPUTER CONCEPTS

4 credits

This course prepares the student to develop an understanding of the role that data processing plays in the business community. To achieve this, we develop the student's ability in problem definition and solution as required of users of automatic data processing systems. Furthermore, we introduce the concepts of programming through Fortran and Basic language. The student enters the program by way of terminals located in the Data Processing Laboratory. Terminals are either video or hard copy. Also there is a remote card input terminal. PREREQUISITE: None

Offered Fall Semester

BD 102-PROGRAMMING 1 - R.P.G.

REPORT PROGRAM GENERATOR

4 credits

Report Program Generator Level Two (R.P.G.) as applied to the computer is the main content of this course. This language is used on all business computers such as: IBM, Univac, Honeywell, Burroughs and NCR. Upon completion, the student will be able to write, assemble, and debug programs. Programs for billing, payroll, inventory control and accounts receivable will be written and tested using the Terminals and Card Reader in the Data Processing Laboratory. PREREQUISITE: BD 101.

Offered Fall Semester

BD 202-PROGRAMMING 2 (R.P.G. 2)

REPORT PROGRAM GENERATOR

4 credits

Upon completion, the student will be able to write programs using Tables, Arrays, Subroutines. Also, the student will write disk and tape programs. The student will write various programs for these devices and they will be tested, assembled, and debugged in the Data Processing Laboratories. PREREQUISITE: BD 102.

Offered Spring Semester

BD 210-D/P ACC. SYSTEMS & APPLICATIONS

4 credits

The purpose of this course is to teach the student how to develop systems and procedures and apply them to a Data Processing Installation. The student is schooled in the latest inventory control systems. Required for Data Processing Majors. PREREQUISITE: BD 101.

Offered Spring Semester**BD 302-COBOL 1**

4 credits

COBOL is a compiler-type language designed to handle business problems. Students will use a medium scale computer to test and "debug" the many business programs that will be written as requirements of this course. Required for Data Processing majors. PREREQUISITE: BD 101.

Offered Fall Semester**BD 305-BAL-BASIC ASSEMBLY LANGUAGE**

4 credits

Basic Assembly Language is a computer language directly related to computer Machine Language on a one for one basis. The assembly language used is the one available on both IBM and Univac Equipment. Upon completion of this course, the student will be able to write, assemble and "debug" programs. Required for Data Processing majors. PREREQUISITE: None

Offered Fall Semester**BD 306-FORTRAN IV**

4 credits

Fortran (an acronym for formula translation) is one of the most widely used compiler languages available for use on many modern-day computers. This course is designed to teach the student how to write programs in the Fortran Language so that he may utilize the computer as a tool to solve statistical and mathematical formulae. The course is recommended as an elective to Engineering transfer students and to Data Processing students with a good math background. Elective for Data Processing majors. PREREQUISITE: None

BD 310-ADVANCE SYSTEMS

3 credits

This course is a continuation of course BD 210. At the completion of this course the student will be expected to be able to design a complete business system. The project will include the system design or input, output, write and debug programs, the flow charting and procedure for a business system.

PREREQUISITES: BD 101 and BD 210; and one of the following: BD 102 or BD 302.

Offered Fall Semester**BD 402-COBOL 2**

4 credits

Advanced COBOL coding techniques for tape and disk files are covered. Core-saving techniques and special features such as SORT verb and REPORT WRITER facility are included. Business-oriented applications will be discussed and programmed in detail. Upon completion of this course, the student will be qualified to design and program a typical business problem in COBOL. Required for Data Processing Majors. PREREQUISITES: BD 101 and BD 302.

Offered Spring Semester**BD 410 D/P SYSTEMS & PROGRAMMING PROJECT**

3 credits

The students will develop special business systems including the necessary computer programs. Course flexibility is utilized to meet current demands of the computer industry and its changing techniques.

PREREQUISITES: BD 101 and BD 302.

Offered Spring Semester**BD 411-MANAGEMENT INFO. SYSTEMS**

3 credits

This course is designed for senior Data Processing majors. Its purpose is to provide students with the knowledge of Data Base Systems, Models/Simulation and other concepts in the Data Processing field today.

PREREQUISITES: BD 101, BD 210, and BD 302.



OFFICE SYSTEMS/SECRETARIAL SCIENCES

The Office Systems/Secretarial Science Department offers seven different career programs to satisfy the varied needs of the business community. The executive, legal, medical, or bilingual secretary gains a broad background knowledge of the business world as well as a wide range of knowledge in her specific field. The secretarial student may follow either the traditional career path learning shorthand or become proficient on various types of word processing equipment instead.

By choosing Principles of Management as a senior elective, a student will be qualified to sit for the Certified Professional Secretary examination given by the National Secretaries Association International. A member of the faculty who is a CPS will advise the student in preparing for the examination.

The department also sponsors a chapter of the Future Secretaries Association, which is under the auspices of the National Secretaries Association International, a chapter of the Association of Legal Students under the guidance of the Legal Secretaries Association, and Medical Secretaries Club.

A new Word Processing Management program prepares both men and women to assume management positions in word processing centers in the modern office. The Court Stenographer is trained to fill positions in the courts or the government. All careers are based on the individual's proficiency in taking machine shorthand at high rates of speed.

Upon the successful completion of requirements for this program as listed below, the degree of Associate in Science in Secretarial Science will be awarded. The Clerical Office Assistant is trained in a one-year certificate program that prepares the graduate for basic office responsibilities with particular emphasis on filing and machine transcription.

BILINGUAL SECRETARIAL

No.	Course Title	Class	Lab	Credits
MM 130	Business Math	3		3
BZ 111	Typing 1 Lab	3	2	3
BZ 102	Shorthand 1	3		4
LF 321	Intermediate Spanish 1	3		3
LE 100	English Composition 1	3		3
		15	2	16

SEMESTER 2

LE 200	English Composition 2	3		3
BH 241	Bilingual Typing	3	2	3
NP 100	General Psychology	3		3
BZ 202	Shorthand 2	3	2	4
LF 421	Intermediate Spanish 2	3		3
		15	4	16

SEMESTER 3

BE 301	Executive Typewriting	2	3	3
BH 306	Translation For Bilingual	3		3
BO 103	Clerical Office Practice 1	1		1
BO 113	Records Management 1	1		1
BO 123	Records Management 2	1		1
BZ 105	Word Processing Editing	3		3
BZ 302	Shorthand 3	3	2	4
		14	5	16

SEMESTER 4

LE 201	Business English	3		3
BZ 240	Bus. Calculating Machines	3		3
BH 402	IPM Transcription	3		3
BH 304	Bilingual Machine Trans.	3		3
	Elective	3		3
		15		15

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Bilingual will be awarded.

BILINGUAL SECRETARIAL WORD PROCESSING OPTION

No.	Course Title	Class	Lab	Credits
MM 130	Business Math	3		3
BZ 111	Typing 1 Lab	3	2	3
BZ 102	Shorthand 1	3		4
LF 321	Intermediate Spanish 1	3		3
LE 100	English Composition 1	3		3
		15	2	16

SEMESTER 2

LE 200	English Composition 2	3		3
BH 241	Bilingual Typing	3	2	3
BZ 105	Word Processing Editing	3		3
LF 421	Intermediate Spanish 2	3		3
NP 100	General Psychology	3		3
		15	2	15

SEMESTER 3

BH 306	Translation For Bilingual	3		3
BH 304	Bilingual Machine Trans.	3		3
BE 301	Executive Typewriting	2	3	3
BO 103	Clerical Office Practice 1	1		1
BO 113	Records Management 1	1		1
BO 123	Records Management 2	1		1
BZ 305	Word Processing Training 1	1	4	4
		14	7	16

SEMESTER 4

LE 201	Business English	3		3
LE 203	Speech	3		3
BZ 304	Machine Transcription	3		3
BZ 240	Business Calc. Machines	3		3
BZ 405	Word Processing Office Management	3		3
		15		15

Upon the successful completion of requirements for this program as listed above, a degree of Associate in Science in Secretarial Science-Bilingual will be awarded.

BH 241-BILINGUAL TYPING

3 credits

The student who has mastered the English keyboard with a minimum speed of 30 wpm for 3 minutes with a maximum of 3 errors develops equal facility with bilingual (Spanish-English) keyboard as he/she increases his/her skill to a minimum of 40 wpm for 5 minutes with a maximum of 5 errors. Upon the successful completion of the course, the student will be



proficient in the production of tabulations, memorandums, business letters and envelopes, manuscripts from rough drafts, outlines, and the preparation of standard application forms in both English and Spanish. **PREREQUISITE:** BZ111 and BH111

Offered Fall and Spring Semester

BH 304-BILINGUAL MACHINE TRANSCRIPTION 3 cr.

In this course, the student learns the technique and operation of machine transcription equipment in the transcription of both English and Spanish correspondence. Emphasis is on mailable transcripts. Grammar, spelling, punctuation, capitalization and proofreading are stressed.

Offered Spring Semester

BH 306-TRANSLATION FOR BILINGUAL 3 credits

This course brings together the skills acquired in the two languages (Spanish and English) to make the student an effective bilingual office worker. Students are introduced to translation as it applies to the business office.

Offered Fall Semester

BH 402-IPM TRANSCRIPTION 3 credits

This course is designed to develop the student's ability to take dictation at high rates or speed and to transcribe accurately. No credit is given unless the transcript is mailable. Shorthand theory, punctuation, spelling, and vocabulary are stressed throughout the course. This course combines individualized taped instruction with weekly dictation and the individualized assistance of the instructor.

Offered Spring Semester

BZ 111-TYPING LAB 1 3 credits

This is a basic course in which correct type-writing techniques, skill, and accuracy are stressed. Timed writings from 3-5 minutes are introduced. The student becomes familiar with centering, tabulations, block letter style, simple memoranda, postcards, rough drafts, and manuscripts. The slide-tape presentation of the instruction aid in individual progress, and the student learns to type at his (her) own pace. The minimum speed requirement for the course is 30 words per minute for three minutes with three or less errors. This is primarily for the student with some knowledge of typing.

Offered Fall Semester

BZ 211-TYPING LAB 2 3 credits

This course is a continuation of BZ111 with continued development of speed and accuracy together with a thorough mastery of all letter styles, interoffice correspondence, addressing envelopes, rough draft material, manuscripts, and ruled tabulations. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. The minimum requirement for this course is 40 words per minute for five minutes with five or less errors. **PREREQUISITE:** BZ111.

CLERICAL OFFICE ASSISTANT (1 YEAR)

No .	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MM 130	Business Math	3		3
BZ 101	Typewriting 1	5		3
BO 103	Clerical Office Practice 1	1		1
BO 113	Records Management 1	1		1
BO 123	Records Management 2	1		1
BZ 105	Work Processing Editing	3		3
		17		15

SEMESTER 2

LE 201	Business English	3		3
BZ 201	Typewriting 2	5		3
BZ 240	Business Calc. Machines	3		3
BO 204	Intro to Machine Trans.	3		3
	Elective	3		3
		17		16

Upon the successful completion of requirements for this program as listed above, the Certificate in Clerical Office Assistant will be awarded.

COURT STENOGRAPHY

No .	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
NP 100	General Psychology	3		3
BZ 101	Typewriting 1	5		3
BC 102	Machine Shorthand 1	4	4	6
	Elective	3		3
		18	4	18

SEMESTER 2

LE 200	English Composition 2	3		3
MB 101	Biology for Man	3	3	4
BZ 201	Typewriting 2	5		3
BC 202	Machine Shorthand 2	4	4	6
		15	7	16

SEMESTER 3

BB 310	Business Law 1	3		3
BL 301	Legal Typewriting	2	3	3
BC 302	Machine Shorthand 3	4	4	6
BL 303	Legal Office Practice	3		3
		12	7	15

SEMESTER 4

LE 201	Business English	3		3
BL 402	Legal Dictation & Trans.	4	4	6
BC 412	Court Reporting Tech.	3		3
	Elective	3		3
		13	4	15

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Court Stenography will be awarded.

EXECUTIVE SECRETARIAL

No .	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
NS 100	Intro. to Sociology 1	3		3
NE 100	Economics 1	3		3
BZ 101	Typewriting 1	5		3
BZ 102	Shorthand 1 or			
BZ 112	Skill Building	3	2	4
		17	2	16

SEMESTER 2

LE 200	English Composition 1	3		3
NP 100	General Psychology	3		3
BZ 201	Typewriting 2	5		3
BZ 202	Shorthand 2	3	2	4
BD 101	Computer Concepts (E) or			
NS 200	Social Problems (E) or			
BZ 105	Word Proc. Editing (E) or			
	Elective: Social Science	3		3
		17	2	16

SEMESTER 3

BE 301 Executive Typewriting	2	3	3
BE 303 Secretarial Practice 1	3		3
BZ 302 Shorthand 3	3	2	4
BP 101 College Accounting 1	3		3
BB 310 Business Law 1	3		3
	<u>14</u>	<u>5</u>	<u>16</u>

SEMESTER 4

LE 201 Business English	3		3
BE 402 Exec/Tech Dict. & Trans.	4	4	6
BB 410 Business Law 2 (E) or			
BP 202 College Acct. 2 (E) or			
BZ 304 Mach. Transcription (E)	3		3
BZ 240 Bus.Calc.Mach.(E) or			
BZ 305 Word Proc.Training or			
BK 110 Prin. of Management (E)	3		3
	<u>13</u>	<u>4</u>	<u>15</u>

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Executive will be awarded.

EXECUTIVE SECRETARIAL WORD PROCESSING OPTION**SEMESTER 1**

No.	Course Title	Class	Lab	Credits
LE 100 English Composition 1		3		3
NE 100 Economics 1		3		3
BZ 101 Typewriting 1		5		3
NS 100 Intro. to Sociology		3		3
BZ 102 Shorthand 1 or				
BZ 112 Skill Building		3	2	4
		<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 2

LE 200 English Composition 2	3		3
NP 100 General Psychology	3		3
BZ 210 Typewriting 2	5		3
BD 100 Computer Concepts	3	2	4
BZ 105 Word Processing Editing	3		3
	<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 3

BP 101 College Accounting 1	3		3
BE 301 Executive Typewriting	2	3	3
BE 303 Secretarial Practice 1	3		3
BZ 304 Machine Transcription	3		3
BZ 305 Word Processing Training	1	4	4
	<u>12</u>	<u>7</u>	<u>16</u>

SEMESTER 4

LE 201 Business English	3		3
LE 203 Fundamentals of Speech	3		3
BB 310 Business Law 1	3		3
BZ 240 Bus.Calculation Machines	3		3
BZ 405 Word Proc.Office Mgnt.	3		3
	<u>15</u>		<u>15</u>

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Executive will be awarded.

LEGAL SECRETARIAL**SEMESTER 1**

No.	Course Title	Class	Lab	Credits
LE 100 English Composition 1		3		3
NS 100 Intro. to Sociology		3		3
NE 100 Economics 1		3		3
BZ 101 Typewriting 1		5		3
BZ 102 Shorthand 1 or				
BZ 112 Skill Building		3	2	4
		<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 2

LE 200 English Composition 1	3		3
NP 100 General Psychology	3		3
BZ 201 Typewriting 2	5		3
BZ 202 Shorthand 2	3	2	4
BD 101 Computer Concepts (E) or			
NS 200 Social Problems (E) or			
BZ 105 Word Proc. Editing (E) or			
Elective: Social Science	3		3
	<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 3

BL 301 Legal Typewriting	2	3	3
BZ 302 Shorthand 3	3	2	4
BP 101 College Accounting 1	3		3
BL 303 Legal Office Practice	3		3
BB 310 Business Law 1	3		3
	<u>14</u>	<u>5</u>	<u>16</u>

SEMESTER 4

LE 201 Business English	3		3
BL 402 Legal Dictation & Trans.	4	4	6
BB 410 Business Law 2 (E) or			
BP 202 College Acct. 2 (E) or			
BZ 304 Mach. Transcription (E)	3		3
BZ 240 Bus.Calc.Mach.(E) or			
BZ 305 Word Proc.Training or			
BK 110 Prin. of Management (E)	3		3
	<u>13</u>	<u>4</u>	<u>15</u>

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Legal will be awarded.

LEGAL SECRETARIAL WORD PROCESSING OPTION**SEMESTER 1**

No.	Course Title	Class	Lab	Credits
LE 100 English Composition 1		3		3
NE 100 Economics 1		3		3
BZ 101 Typewriting 1		5		3
NS 100 Intro. to Sociology		3		3
BZ 102 Shorthand 1 or				
BZ 112 Skill Building		3	2	4
		<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 2

LE 200 English Composition 2	3		3
NP 100 General Psychology	3		3
BZ 210 Typewriting 2	5		3
BD 100 Computer Concepts	3	2	4
BZ 105 Word Processing Editing	3		3
	<u>17</u>	<u>2</u>	<u>16</u>

SEMESTER 3

BP 101 College Accounting 1	3		3
BL 301 Legal Typewriting	2	3	3
BL 303 Legal Office Practice	3		3
BZ 304 Machine Transcription	3		3
BZ 305 Word Processing Training	1	4	4
	<u>12</u>	<u>7</u>	<u>16</u>

SEMESTER 4

LE 201 Business English	3		3
BB 310 Business Law 1	3		3
LE 203 Fundamentals of Speech	3		3
BZ 240 Bus.Calculation Machines	3		3
BZ 405 Word Proc.Office Mgnt.	3		3
	<u>15</u>	<u>4</u>	<u>15</u>

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Secretarial Science-Legal will be awarded.

MEDICAL SECRETARIAL SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
BZ 101	Typewriting 1	5		3
BZ 102	Shorthand 1 or			
BZ 112	Skill Building	3	2	4
MB 104	Human Biology	3	2	4
AA 103	Medical Asst. Tech for Secretaries 1	3	2	4
		17	6	18

SEMESTER 2

LE 200	English Composition 2	3		3
BZ 201	Typewriting 2	5		3
BZ 202	Shorthand 2	3	2	4
MB 204	Human Biology 2	3	2	4
AA 201	Medical Ass. Tech Sec. 2	3	2	4
		17	6	18

SEMESTER 3

NP 100	General Psychology	3		3
BM 302	Medical Shorthand	3	2	4
BM 303	Medical Office Pract. 1	3		3
BP 311	Medical Law and Ethics	1		1
BM 310	Medical Sec. Typewriting 2	3	3	3
		12	5	14

SEMESTER 4

LE 201	Business English	3		3
BP 103	Medical Accounting	3		3
BM 403	Medical Office Pract. 2	3		3
BM 402	Medical Dict. & Trans.	4	4	6
		13	4	15

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Medical will be awarded.

MEDICAL SECRETARIAL WORD PROCESSING OPTION SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
BZ 101	Typewriting 1	5		3
BZ 102	Shorthand 1 or			
BZ 112	Skill Building	3	2	4
MB 104	Human Biology	3	2	4
AA 103	Medical Asst. Tech for Secretaries 1	3	2	4
		17	6	18

SEMESTER 2

LE 200	English Composition 2	3		3
BZ 201	Typewriting 2	5		3
BZ 105	Word Processing Editing	3		3
MB 204	Human Biology 2	3	2	4
AA 201	Medical Ass. Tech Sec. 2	3	2	4
		17	4	17

SEMESTER 3

BM 301	Medical Sec. Typewriting 2	3	3	3
BZ 304	Machine Transcription	3		3
BZ 305	Word Proc. Training	1	4	4
BM 303	Medical Office Pract. 1	3		3
BP 311	Medical Law and Ethics	1		1
		10	7	14

SEMESTER 4

LE 201	Business English	3		3
BP 102	Medical Accounting	3		3
BM 403	Medical Office Pract. 2	3		3
NP 100	Medical Psychology	3		3
BZ 405	Word Proc. Off. Mgnt.	3		3
		15		15

Upon the successful completion of requirements for this program as listed above, the degree of Associate in Science in Secretarial Science-Medical will be awarded.

WORD PROCESSING MANAGEMENT SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition	3		3
NP 100	General Psychology	3		3
BZ 101	Typewriting 1	5		3
BD 101	Computer Concepts	3	2	4
MM 120	Contemporary Math 1	3		3
		17	2	16

SEMESTER 2

LE 200	English Composition 2	3		3
BZ 210	Typewriting 2	5		3
NP 409	Industrial Psychology or			
NP 109	Human Relations at Work	3		3
BZ 105	Word Processing Editing	3		3
MM 121	Contemporary Math 2	3		3
		17		15

SEMESTER 3

LE 203	Fundamentals of Speech	3		3
BZ 110	Accounting 1	5		4
BK 110	Principles of Management	3		3
BB 310	Business Law 1	3		3
BP 305	Word Processing Skills	3	2	4
		17	2	17

SEMESTER 4

NE 100	Economics 1	3		3
LE 201	Business English	3		3
BK 413	Supervisory Management	3		3
BP 405	Word Processing Mgnt.	3		3
BP 415	Word Processing Practicum	3		3
		15		15

Upon successful completion of the requirements of this program as listed above, the degree of Associate in Science in Word Processing Management will be awarded.

AA 103-MEDICAL ASSISTING TECHNIQUES FOR SECRETARIES 1

4 credits

This course is constructed to prepare the student to become an efficient medical secretary whether it is in a physician's office, hospital or any other agency delivering health care. There are 5 class hours a week. Two hours will be devoted to lecture, one hour to terminology and two hours to be used for practicing lab procedures. Offered Fall Semester

AA 201-MEDICAL ASSISTING TECHNIQUES FOR SECRETARIES 2

4 credits

Continuation of advanced theory and terminology. Selected laboratory procedures will include electrocardiogram, cardiopulmonary resuscitation and other first aid procedures. Offered Spring Semester

BC 102-MACHINE SHORTHAND 1

6 credits

This course will enable the student to gain a mastery of the basic machine shorthand theory. Emphasis will be placed on stroking technique and vocabulary development through the reading and writing of shorthand. Machine shorthand tapes correlated with the textbook are used in the development of dictation speed and the reading of notes accurately. The course meets 8 hours per week. Offered Fall Semester

BC 202-MACHINE SHORTHAND 2

6 credits

This course will enable the student to gain a mastery of advanced machine shorthand theory and to develop shorthand and transcription skill on unfamiliar material. The student will develop the ability to separate phonetically unfamiliar words according to machine shorthand theory and to write these words accurately in shorthand. The course meets 8 hours per week. PREREQUISITE: BC102, BZ101.

Offered Spring Semester

BC 302-MACHINE SHORTHAND 3

6 credits

The course is designed to familiarize students with specialized dictation material in the areas of medical, legal, and technical dictation. Dictation material will also include basic question-and-answer material, as well as an introduction to multi-voice dictation. The course meets 8 hours per week. PREREQUISITE: BC202, BZ201.

Offered Fall Semester

BC 412-COURT REPORTING TECHNOLOGY

3 credits

This course is designed to familiarize students with the Massachusetts court system, transcript format for district and superior courts, as well as reporting techniques using machine shorthand. Dictation material will include multi-voice courtroom testimony specializing in legal, medical, and technical dictation. As part of the course, students will be expected to attend actual cases and take and transcribe complete courtroom testimony. The course meets 3 hours per week. PREREQUISITE: BZ251.

Offered Spring Semester

BE 301-EXECUTIVE TYPEWRITING

3 credits

This course is designed for the executive secretary where difficult materials in manuscripts, statistical, letter, and rough draft typing present a challenge in problem solving for the student. Speed and accuracy are developed through daily production of these materials, and typing stamina is further built and maintained by the use of 40-minute production tests. Instruction on the IBM Executive typewriter is included. The course meets 5 hours per week. PREREQUISITE: BZ201 a minimum speed of 40 words per minute for 5 minutes with 5 errors or less.

Offered Fall Semester

BE 303-SECRETARIAL PRACTICE 1

3 credits

This course gives the student instruction and practice in a variety of secretarial skills including the duties of the receptionist, telephone techniques, filing procedures, handling confidential matters, conferences and itineraries. Through the use of simulated office situations, the student develops initiative and decision-making abilities essential to top-level secretarial positions. The course meets 3 hours per week. PREREQUISITE: BZ201.

Offered Fall Semester

BE 402-EXECUTIVE DICTATION & TRANSCRIPTION

6 credits

This course is designed to develop the student's ability to take dictation at high rates of speed and to transcribe rapidly and accurately. No credit is given unless the transcript is mailable. Shorthand theory, punctuation, spelling and vocabulary are stressed throughout the course. The course

meets 8 hours per week. PREREQUISITES: BZ302 and BE301.

Offered Spring Semester

BL 301-LEGAL TYPEWRITING

3 credits

This course is designed specifically for the legal secretary. Stress is placed on building speed and accuracy in the production of legal documents and correspondence. Legal vocabulary and punctuation are emphasized through project work. The student is introduced to the IBM Executive proportional spacing typewriter. After learning the various features of the machine, legal documents are produced on it. PREREQUISITE: BZ201; typing speed of 40 words per minute for 5 minutes. This course meets 5 hours per week.

Offered Fall Semester

BL 303-LEGAL OFFICE PRACTICE

3 credits

This course is designed to acquaint the student with the Massachusetts court system, including practices and procedures in the preparation of legal papers and documents. Legal terminology and procedures in the areas of criminal, civil, probate, domestic relations, etc., will be presented. The student will also receive instruction and practice in filing procedures and telephone techniques. Field trips will be arranged, as well as speakers from the courts and legal offices in the Greater Springfield area. The course meets 3 hours per week. PREREQUISITE: BZ202 or BC202, BZ201.

Offered Fall Semester

BL 402-LEGAL DICTATION & TRANSCRIPTION

6 cr.

This course is designed to develop the student's ability to take dictation of legal material and to transcribe with speed and accuracy. Legal terminology, grammar, spelling, punctuation, capitalization, proofreading, and the use of reference material will be stressed. The Mass. Rules of Court will be followed. No credit is given unless the transcript is mailable. This course meets 8 hours per week. PREREQUISITE: BZ-202 or BC-302, BC-301.

Offered Spring Semester

BM 301-MEDICAL SECRETARIAL TYPING

3 credits

This course is designed specifically for the medical secretary. This production typing course concentrates on understanding and accuracy in typing medical forms, reports, progress notes, case histories, and correspondence. Typing stamina is built and maintained through 5 minute timed writing using medical material. This course meets 5 hours per week. PREREQUISITE: BZ201; typing speed of 40 w.p.m. for 5 minutes.

Offered Fall Semester

BM 302-MEDICAL SHORTHAND

4 credits

This is a comprehensive medical shorthand skill-building course. Emphasis is placed on the mastery of the shorthand outlines for the commonly used medical terms with particular attention to the medical prefixes and suffixes. The student not only masters the shorthand outlines but must also become thoroughly familiar with the spelling and meaning of medical monem-clature. The course meets five hours per week. PREREQUISITE: BZ201 and BZ202.

Offered Fall Semester

BM 303-MEDICAL OFFICE PRACTICE 1 3 credits
This course is designed to familiarize the student with the routine business skills pertinent to the medical office. This course includes the development of reception room procedures, telephone techniques, filing and various other medical office assistant duties. The course meets 3 hours per week. **PREREQUISITE:** BZ201 or BZ251. Offered Fall Semester

BM 402-MEDICAL DICTATION & TRANSCRIPTION 6 credits
This course is a continuation of Medical Shorthand with further development of shorthand characters for medical terms, as well as a mastery of the spelling, meaning, and pronunciation. The student develops the ability to take dictation of materials pertinent to the medical field and to transcribe with speed and accuracy. The course meets 8 hours per week. **PREREQUISITE:** BM302,301. Offered Spring Semester

BM 403-MEDICAL OFFICE PRACTICE 2 3 credits
This course is a continuation of Medical Office Practice 1 with an introduction to the operation of a variety of office machines, including electronic calculators, IBM Executive typewriters, transcribing equipment, and duplicating and copying equipment used in the medical office. Emphasis will be placed on the training of medical secretaries using medical dictation for machine transcription. This course meets 3 hours per week. **PREREQUISITE:** BM 301 or BZ251 or equivalent and BM303. Offered Spring Semester

BO 103-CLERICAL OFFICE PROCEDURES 1 credit
In the first half of this course, the student masters the office procedures involved in interpersonal communication, in handling office mail, and in telephone communication. The lessons of the second half are designed to help the student better understand the world of work before entering it with special emphasis on what it offers the employee and expects in return. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. Offered Fall Semester

BO 105-WORD PROCESSING EDITING 3 credits
Introduction to Word Processing is a one-semester course which will prepare the student for production of mailable business communications in machine transcription and word processing courses. The course emphasizes the basic principles of typewriting style and word division, punctuation style, spelling improvement, capitalization, number, and abbreviation styles, and proofreading. Weekly testing sheets and achievement tests will be administered upon completion of each area of emphasis. Offered Spring Semester

BO 113-RECORDS MANAGEMENT 1 1 credit
In this course the student learns the office procedures involved in records management and in the alphabetic filing arrangement of personal names and the names of businesses, institutions, and government agencies. Extensive practice is given in indexing and coding and in filing and retrieval of business correspondence from files. The slide-tape presentation of the instruction aids in

individual progress, and the student masters the required skills at his (her) own pace. Offered Fall Semester

BO 123-RECORDS MANAGEMENT 2 1 credit
In this course the student completes the study of office procedures involved in records management with specific emphasis on the numeric, subject, and geographic arrangement of business correspondence and the use of an index, requisitions, outguides, and tickler files. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. **PREREQUISITE:** BO 113. Offered Fall Semester

BO 204-INTRO. TO MACHINE TRANSCRIPTION 3 cr.
This course is an introduction to basic transcription techniques with emphasis on spelling, grammar, punctuation, number usage, and capitalization. Vocational competence in machine transcription for the clerical office worker is the principal goal of Introduction to Machine Transcription. Developing good listening techniques, producing first-time mailable business communications, and learning the importance of machine dictation and transcription in the word processing cycle are the important objectives in this course. Offered Spring Semester

BP-102 MEDICAL ACCOUNTING 3 credits
This course gives instruction and practice in the fundamental principles of professional accounting covering daily record keeping; the theory of debits and credits; classification of accounts; journalizing; preparation of financial statements. Use of the trial balance and technical procedures involved in closing operating accounts of single proprietorships in professional business. A definite effort is made to correlate the work to that of a medical situation. Course meets three hours per week. Offered Fall & Spring Semester

BP 305-WORD PROCESSING SKILLS 4 credits
This course is designed to give the management major a background in the skills which are used in a word processing center: Telephone techniques, records management, machine dictation and transcription procedures, and hands-on word processing training. The student will learn about the telephone equipment available, the services for business users, and the rules recommended for handling calls. Students will be introduced to the various filing methods, procedures used in requisitioning and charging file materials, transferring paper from active to storage areas, the importance of data processing and microfilming. The technique and operation of machine dictation and transcription equipment will be taught and incorporated in the word processing cycle. In addition to hands-on training in the basic functions of various types of word processing equipment through the use of instructional cassettes, the student will have lectures on the history of word processing and its implications for office organization. **PREREQUISITE:** BZ201 or BZ211. (Open only to Word Processing Management Seniors). Offered Fall Semester

BP 311-MEDICAL LAW & ETHICS 1 credit
The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes. Offered Fall and Spring Semester

BZ 101-TYPEWRITING 1 3 credits
A foundation course in which current typewriting techniques, skill and accuracy are stressed. Timed writings for 3 minutes are introduced. The student becomes familiar with centering, manuscripts, tabulations and block letter style. Class drills and projects aid in individual progress. The minimum speed requirement for the course is 30 words per minute for 3 minutes with 3 or less errors for beginners. Course meets 5 hours per week. Offered Fall Semester

BZ 102-SHORTHAND 1 4 credits
In this course emphasis is placed on the mastery of the principles of College Gregg Shorthand, Diamond Jubilee Series, with particular attention to penmanship, vocabulary, spelling and punctuation. The mastery of the principles and the building of vocabulary are developed through reading and writing shorthand. The minimum requirement for the course is 60 words per minute for 2 minutes on familiar material with 95% accuracy. The course meets 5 hours per week. Offered Fall Semester

BZ 112-SKILL BUILDING 4 credits
This course is designed for the student who has had some experience with shorthand but does not feel secure enough to proceed with Shorthand 2. The course will include a thorough review of College Greg Shorthand principles. Emphasis will be placed on upon the development of speed and accuracy in taking dictation in conjunction with spelling, punctuation and vocabulary. The minimum requirement for the course will be 70 words per minute for two minutes with 95 percent accuracy. The course meets 5 hours per week. Offered Fall Semester

BZ 201-TYPEWRITING 2 3 credits
This course is a continuation of BZ-101 or its equivalent with continued development of speed and accuracy together with a thorough mastery of all letter styles, interoffice correspondence, addressing envelopes, rough draft materials and tabulation. The minimum requirement for this course is 40 words per minute for 5 minutes with 5 or less errors. The course meets 5 hours per week. PREREQUISITE: BZ101 or equivalent. Offered Spring Semester

BZ 202-SHORTHAND 2 4 credits
This course continues with the refinement of the principles of College Gregg Shorthand with further emphasis on penmanship, vocabulary, spelling, and punctuation. Emphasis is placed on the development of speed and accuracy in taking dictation. Expert shortcuts are presented. The minimum requirement for the course is 70 words per minute for 3 minutes on new material with 95% accuracy. The course meets 5 hours per week. PREREQUISITE: BZ102 or BZ112, BZ101. Offered Spring Semester

BZ 240-BUSINESS CALCULATING MACHINES 3 cr.
This course gives the student instruction and practice in a variety of business calculating machines commonly found in business offices. The application of basic mathematical principles in solving business problems is stressed. This course meets 3 hours per week. Offered Spring Semester

BZ 251-MEDICAL TYPEWRITING 3 credits
This course is designed specifically for the medical assistant. Emphasis is placed on the understanding and production of medical forms, insurance forms, case histories, discharge summaries, medical reports, and medical correspondence. Typing stamina is built and maintained through 5-minute timed writings using medical material. Minimum typing speed is 50 w.p.m. for 5 minutes. The course meets 5 hours per week. PREREQUISITE: BZ101 or equivalent. Offered Spring Semester

BZ 302-SHORTHAND 3 4 credits
This course stresses the development of speed with continued emphasis on vocabulary, spelling, and shortcuts. Students receive dictation pertinent to the various departments of a large business organization. The minimum requirement for the course is 80 words per minute for 5 minutes with at least 95% accuracy. The course meets 5 hours per week. PREREQUISITE: BZ202, 201. Offered Fall Semester

BZ 304-MACHINE TRANSCRIPTION 3 credits
This course emphasizes the techniques and operation of machine transcription equipment. Transcription skills will be acquired through the use of a wide variety of business related dictation. Emphasis is on available transcripts. Grammar, spelling, punctuation, capitalization, proofreading, and the use of reference material will be stressed. The relationship of machine transcription to the word-processing concept will also be introduced. The course meets three hours per week. PREREQUISITE: BZ202 or BC201, 40 WPM typing speed. Offered Fall Semester

BZ 305-WORD PROCESSING TRAINING 3 credits
This course is designed to familiarize the student with the concepts and equipment of word processing. Emphasis is placed on developing skills and knowledge in processing a variety of business documents on keyboards with magnetic and/or memory technology. The course meets for three hours of hands-on training and one lecture per week. PREREQUISITE: BZ105, BZ201; a minimum typing speed of 40 words minute for five minutes with five errors or less. Offered Fall Semester

BZ 405-WORD PROCESSING OFFICE MANAGEMENT 3 credits
This course exposes the student to typical responsibilities encountered in managing a word processing center. It will include measuring productivity techniques, employee-training techniques, motivation of personnel, design of forms, controlling distributions of work, investigation of different types of hardware, centralized and decentralized services, and planning the office. Meets 3 hours per week. Offered Spring Semester

BZ 454-MEDICAL MACHINE TRANSCRIPTION 1 credit

This course is designed to introduce the medical assistant to machine transcription. Stress will be placed on skill development and production of accurate medical reports. **PREREQUISITE:** BP-111 and BZ-251

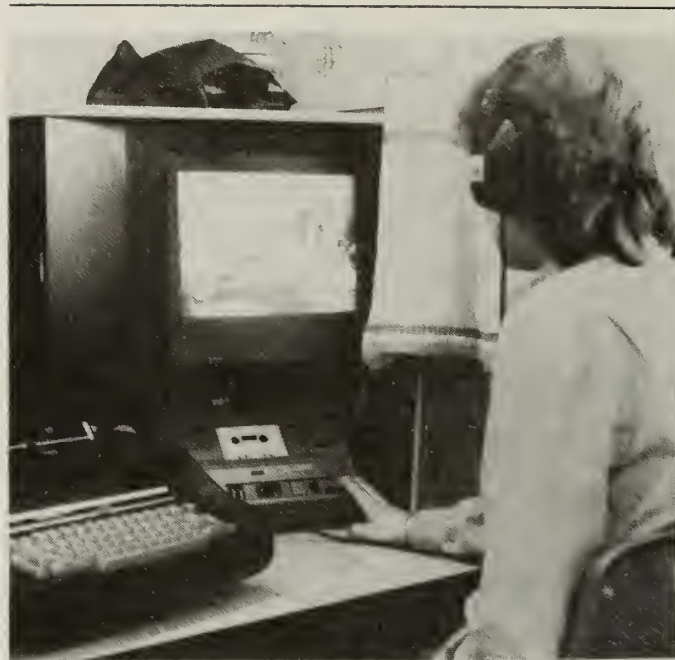
Offered Fall Semester

MM-130 BUSINESS MATHEMATICS

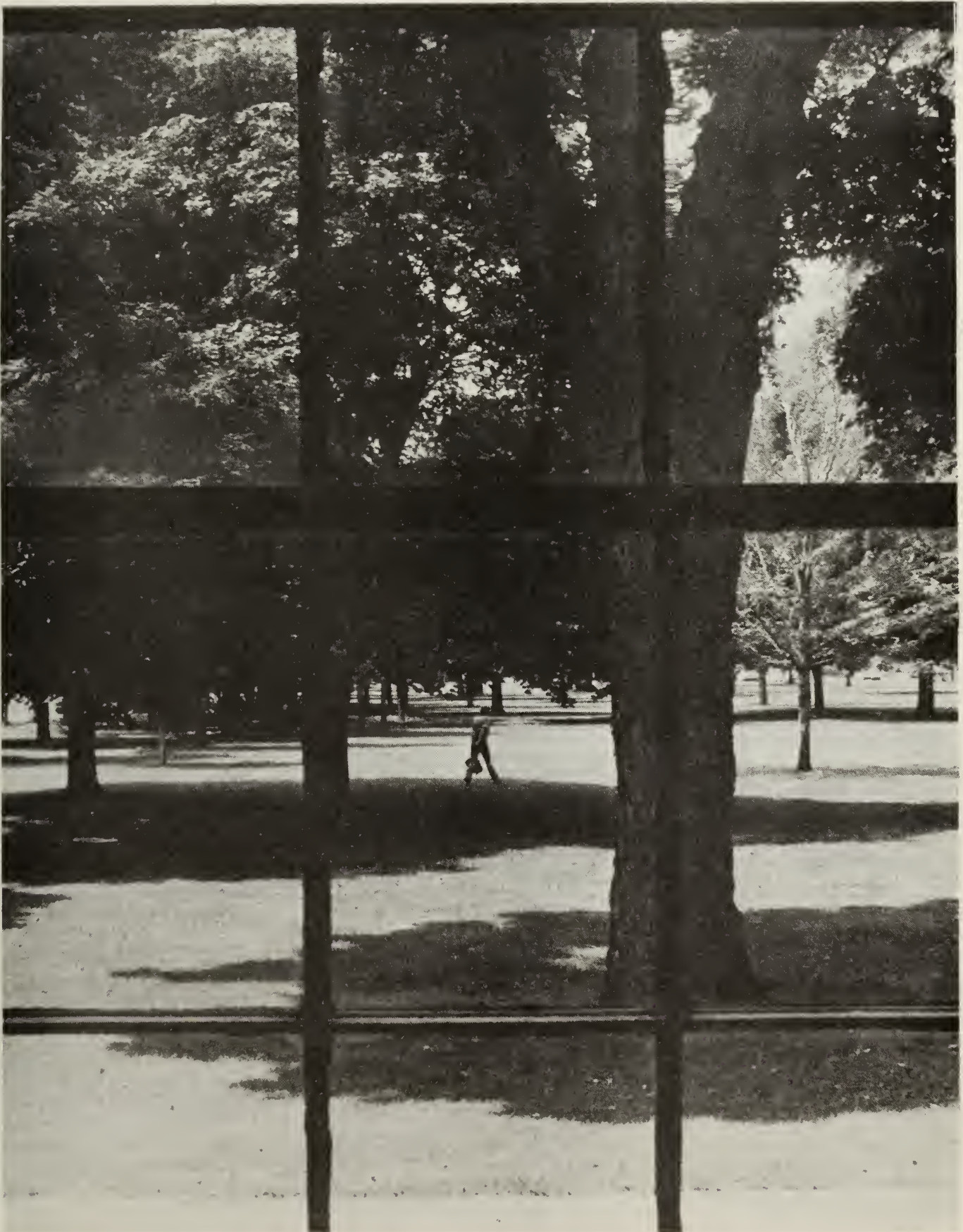
3 credits

This course seeks to give students an understanding and application of mathematical concepts as they relate to business activities and increased competency in the fundamental mathematical and arithmetic skills. Emphasis is placed upon learning mathematical concepts through practical application in business situations. The explanations of business procedures, terminology and original documents aid in promoting understanding and reasoning. Since skill building is very important, the test materials and assignments provide a balance between business applications and skill development. The course meets three hours per week.

Offered Fall Semester



Liberal Arts and Sciences



LIBERAL ARTS AND SCIENCES

AMERICAN STUDIES

The American Studies program provides an opportunity for the student to pursue a college-level liberal arts education focusing on American culture and society while learning career skills. It is unique as a liberal arts program in that it requires technical/career education courses that will equip the graduate with basic, entry-level job skills. This program meets the requirements of the Commonwealth Transfer Compact, and thus enables the student to transfer to a State four-year institution should he decide to continue his liberal arts and science education (see Commonwealth Transfer Compact). The program differs from the other liberal arts and science degree programs offered at STCC in that it focuses specifically on American culture, and it structures technical/career courses to meet various occupational opportunities. It differs from our technical programs in that it emphasizes liberal arts disciplines. Our Modern Studies program is similar in nature, but emphasizes the physical, biological and natural sciences. The minimum requirement for the degree is 61 college-level credits (20 courses) and a cumulative quality point average of 2.0. The distribution of the credits includes 33 credits as specified by the terms of the Commonwealth Transfer Compact (6 English/Communications, 9 Behavioral/Social Sciences, 9 Mathematics/ Science, 9 Humanities/Fine Arts), and the remaining 30 credits include a minimum of 12 in a field of concentration. The basic skills minor could be developed to suit the student and use almost any program selected from the wide variety of STCC's career courses. For example, a student could select: Typing/bookkeeping, Drafting, Machining, Lab Assistant, AV Aide, Medical Office Assistant, Retailing, Real Estate, Small Engine Repair, Graphics, or Telecommunications. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Arts in Liberal Arts/American Studies will be awarded.

SEMESTER 1

	Class	Lab	Credits
LE 100 English Composition I	3		3
NS 100 Intro to Sociology	3		3
Elective: Lab Science	3	3	4
ND 120 Career Plan & Develop.	3		3
NI 100 Am Gov't & Politics	3		3
	15	3	16

SEMESTER 2

LE 303 American Lit I	3		3
NH 110 Survey of Early US Hist	3		3
LE 201 Business English	3		3
Math Elective	3		3
BA 101 Typewriting I	5		3
	17		15

SEMESTER 3

LE 402 American Lit II	3		3
Elective: Math or Lab	3		3
NS 110 Anthropology	3		3
BA 110 Accounting I	5		4
NH 210 Survey of Mod US Hist	3		3
	17		16

SEMESTER 4

NE 300 Current Econ Probs	3		3
LE 126 American Studies	3		3
BZ 201 Typewriting II	5		3
BA 210 Accounting II	5		4
LE 304 Survey of Black Lit	3		3
	19		16

MODERN STUDIES

Career and Culture are combined in this program. The Modern Studies program is for students who (1) wish to acquire basic career skills at the job-entry level in a technical, health, business or community-service field, and who also (2) care equally strongly about an aspect of human culture and endeavour in the humanities, social sciences or natural sciences.

Standards of this University-transfer program are high. Students primarily interested in career training are advised to enter an STCC career program directly, or to enter the General Studies program as preparation for an STCC career program.

Graduates of this program may transfer all their credits to any Massachusetts public four-year college or university (see "Commonwealth Transfer Compact").

Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Arts in Liberal Arts/Modern Studies will be awarded.

Curriculum

Courses	Credits
Career training courses selected from one of these fields (exact courses required are specified in the Modern Studies curriculum pamphlet):	18

Accounting
Advanced Metals Machining
Automotive Technology
Civil Engineering Technology
Data Processing
Drafting & Design
Early Childhood Education
Electrical Technology
Electronic Technology
Environmental Technology
Executive Secretarial
Finance
Fire Protection & Safety Technology
Graphic Arts Technology
Heat/Power/Air-Conditioning Technology
Landscaping/Plant Science Technology
Law Enforcement/Criminal Justice
Legal Secretarial
Machine Design Technology
Management
Marketing
Medical Assistant
Medical Secretarial
Human Services Associate
Solar Energy
Telecommunications

Cultural courses selected from one of these fields (exact courses required are specified in the Modern Studies curriculum pamphlet):

Art
Biological Sciences
English
History & Government
Individual & Society
Mathematics
Physical Sciences

University-transfer subject requirements (courses required are specified in the Modern Studies curriculum pamphlet).

EARLY CHILDHOOD EDUCATION

This course of study is designed to meet the ever-expanding needs for trained personnel in the field of early learning and child care. It provides both general education studies and specific skills gained through class and laboratory experiences.

Graduates of the two-year program will be prepared to assist teachers and other professionals in nonpublic, early environments such as infant care centers, family day care homes, group day care centers, nursery schools, private kindergartens, health care agencies, institutions and other schools and organizations offering early learning programs and/or child care services. The trained assistant will play an important role as a supportive member of the professional team involved in the daily care, development and education of the young child.

Applicants for admission to this program must be high school graduates or equivalent. A personal interview is required as part of the application process and the SAT's must be taken. Early Childhood students must earn a 2.0 quality point average (C) for each major course offering within the program. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Early Childhood Education will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MB 100	Natural History	3	2	4
LC 100	Intro to Early Child. Ed.	3		3
LC 110	Child Growth & Develop.	3		3
LC 120	Early Child. Fieldwork 1		3	1
NP 100	General Psychology	3		3
		15	5	17

SEMESTER 2

LE 200	English Composition 2	3		3
LM 134	Music For Early Child. Education	3		3
LC 210	Theories of Learn. & Personality Development	3		3
LC 200	Curriculum for Open Ed. 1	3	3	4
LC 220	Early Child. Fieldwork 2		6	2
NS 100	Intro. to Sociology 1	3		3
		15	9	18

SEMESTER 3

LE 203	Fund. of Speech	3		3
NS 200	Social Problems or			
NP 400	Prin. of Abnor/Normal Behavior	3		3
LC 310	Survey of Curr. Early Learn. Programs	3		3
LC 300	Curriculum for Open Ed. 2	3	3	4
LC 315	Obser. & Recording of Child Behavior	1		1
LC 320	Obser. & Recording Field Study		9	3
		13	12	17

SEMESTER 4

LC 400	Supervised Student Pract.		18	6
LC 420	Seminar and Critique	3		3
LC 450	Child Health & Nutrition & Safety	3		3
LA 148	Early Child. Art Ed.	3		3
		9	18	15



LC 100-INTRO. TO EARLY CHILDHOOD EDUCATION 3 credits

Introduction to Early Childhood Education is designed to acquaint the student with the philosophy, history and methodology of early learning programs. Within the scope of the course, the students will study the general components of a good early learning program, techniques for improving learning, problems of educational environments, including those of programs for disadvantaged children and parent involvement and the role of the teacher.

Offered Fall Semester

LC 110-CHILD GROWTH AND DEVELOPMENT 3 credits
Provides the student with basic theories and research in growth and development. The course covers study of the individual from conception through early elementary school years in the areas of physical, emotional, social, cognitive, linguistic and personality development.

Offered Fall Semester

LC 200-CURRICULUM FOR OPEN EDUCATION 1 4 cr.
Provides the students with integrated experiences in applied early learning through lecture, discussion and workshops in movement, dramatics, art, science and math. Students are helped to discover their own creative resources. PREREQUISITE: LC 100.

Offered Spring Semester

LC 210-THEORIES OF LEARNING & PERSONALITY DEVELOPMENT 3 credits

Provides an examination of the cognitive and affective theories of Jean Piaget and Erik Erikson. Also studied are issues in contemporary learning and education.

PREREQUISITE: LC 110

Offered Spring Semester

LC 300-CURRICULUM FOR OPEN EDUCATION 2 4 cr.
Provides the student with integrated experiences in applied early learning through lecture, discussion and workshops in literature, story-telling, language development, reading, and the techniques and uses of audio-visual aids as they enrich the integrated curriculum. The role of the adult in providing early learning experiences that foster self-directiveness and self-expressiveness in children is emphasized.

PREREQUISITES: LC 100 and LC 200

Offered Spring Semester

LC 310-SURVEY OF CURRENT EARLY LEARNING PROGRAMS 3 credits
Offers the student a survey of current programs in the field of early learning and examines their underlying rationale. Emphasis is placed on an eclectic approach to select the appropriate aspects of each program to meet the developmental needs of individual children.

PREREQUISITES: LC 100, LC 110 and LC 210

Offered Fall Semester

LC 315-OBSERVATION & RECORDING OF CHILD BEHAVIOR SEMINAR 1 credit
LC 320-OBSERVATION & RECORDING FIELD STUDY 3 credits

Provides the students with an opportunity to increase their objectivity and proficiency in observing and interpreting children's behavior. Lecture will comprise 25% of credit time and 75% will be spent rotating among 3 field placements. PREREQUISITES: LC 200, LC 210

Offered Fall Semester

LC 400-SUPERVISED STUDENT PRACTICUM 6 credits
Supervised field experience in selected facilities planned in cooperation with community agencies and schools. Placements are for

eighteen hours per week: two placements of eight weeks duration each. The Practicum is taken in conjunction with Seminar and Critique, LC 420. PREREQUISITES: LC 100 and LC 315 inclusive.

Offered Spring Semester

LC 420-SEMINAR AND CRITIQUE 3 credits
Provides for systematic evaluation of the total program as it relates to the individual student. Research and discussion center on methods, materials and content of early learning and include the role and responsibilities of professional and semi-professional personnel. Experiences encountered in student practicum placements are the basis for discussion. Taken simultaneously with LC 400. PRE-REQUISITES: LC 100 and LC 315 inclusive.

Offered Spring Semester

LC 450-CHILD HEALTH, NUTRITION & SAFETY 3 cr.
Provides the student with basic information pertaining to nutritional value of food and the relationship of food habits to the health and education of young children, childhood diseases, preventive procedures, the syndrome of child abuse and various community agencies working with children and families. First Aid and CPR certificates will also be earned.

Offered Spring Semester

LC 120-FIELD STUDY 1 1 credit
LC 220-FIELD STUDY 2 2 credits

Supervised field placements in community agencies and schools during each semester the freshman year in the Early Childhood Education Program.



GENERAL STUDIES

The General Studies Program prepares students who:

- wish to earn an Associate in Arts degree and qualify for transfer to a four-year college. Since the graduation requirements include nine general electives, special concentrations are possible, as for example in Art, Biology and General Business;
- have made a career decision, but must complete prerequisites for a specific program, improve skills measured by SAT examinations, or generally confirm their commitment to a particular field;
- are undecided about career objectives and seek an exploratory period leading either to a transfer program or an occupational curriculum;
- need to develop English language skills in order to work successfully in a given program.

Therefore, in order to reflect these student priorities and meet academic needs effectively, General Studies offers core options as follows:

- Core 1 - Transfer: for the student electing a degree program;
- Core 2 - Pre-Health: for the student contemplating an application to a program in the fields of Health or Nursing;
- Core 3 - Pre-Technology: for the student contemplating an application to a program in the Division of Technologies;
- Core 4 - Pre-Engineering and Science Transfer: for the student who wishes to major in Science or prepare for the Engineering Transfer program of the College;
- Core 5 - Pre-Business or Service: for the student who plans an application to a program in Business, Data Processing, Secretarial Office Careers, Cosmetology, Early Childhood Education, Fire Science or Law Enforcement;
- Core 6 - Bilingual Program: for students who need to develop English language skills, an intensive and accelerated curriculum in English as a Second Language, as well as transitional courses in Mathematics and Biology, with related counseling and support services.

The student's intended major or stated program choice will determine the applicable core within the department.

Placement Testing

Both transfer and career programs require effective reading comprehension and English skills as well as a foundation in Mathematics and Science. Therefore, course assignments in these areas are based on the student's performance in a series of placement examinations taken after acceptance, but prior to scheduling and registration. Placement tests in Mathematics, English, Vocabulary Development and Reading Comprehension are required of all entering students. It must be noted that courses may be required as prerequisites for college-level work that are not applicable to the General Studies program.

Academic Advising

Faculty advisors assist the student in making course selections, registering for courses, pursuing program objectives, and completing graduation requirements.

A GS Student Information Booklet is issued to entering students for their guidance. Published yearly, the booklet summarizes pertinent information about department procedures and serves as the student's personal record of courses completed towards a degree.

It is the student's responsibility to seek out information required and act upon it. The catalog and the General Studies Student Information Booklet constitute the official policy of the program in matters of graduation or transfer.

In summary, the General Studies Program involves the student in a broad range of subjects from the major academic areas; and through the nine general electives allowed for the degree; its students are encouraged to explore career programs through electives in Business, Technologies, Health and Human Services. Developmental courses are available and may be required as prerequisites for English-speaking and Non-English speaking students alike, based on test performance.

Minimum requirements for the degree of Associate in Arts in Liberal Arts/General Studies:

English/Communications:

- English Composition I 3 credits
- ONE of the following:
 - Business English
 - English Composition 2
 - Journalism
 - Speech
 - Technical Report Writing 3 credits

Mathematics/Sciences:

- ONE college-level, transferable course in Mathematics 3 credits
- ONE college-level, transferable course in the Sciences 4 credits
- ONE college-level, transferable course in either Mathematics or Science 3 or 4 credits

Behavioral/Social Sciences:

- Introduction to Sociology (4008) 3 credits
- General Psychology (4086) 3 credits
- ONE of the following:
 - Economics I
 - History or Political Science or Cultural Anthropology Elective 3 credits

Humanities/Fine Arts:

- TWO courses selected from:
 - Art
 - College Theatre
 - Foreign Language
 - Music
 - Philosophy
- ONE Literature Elective 3 credits

General Electives:

NINE college-level, non-developmental courses selected from the humanities, technologies, health sciences, mathematics, natural or social sciences

27 credits

TOTAL OF 60 CREDITS REQUIRED**RECOMMENDED COURSE SEQUENCE**

The following sequence is recommended; however, additional semesters may be required for students whose placement scores and/or high school background indicate a need to complete prerequisites for specific college-level courses.

SEMESTER 1

No.	Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
	Elective: General	3		3
NS 100	Sociology or			
NP 100	Gen. Psychology	3		3
	Math Elective (see Note 1)	3		3
	Humanities Elective: Art, Drama or Foreign Lang. Music, Philosophy)	3		3
		15	15	

SEMESTER 2

	Eng. Communications			
	Elective (see Note 2)	3		3
	Sci. or Math Elective (see Note 3)	3		3
NP 100	Gen. Psychology or			
NS 100	Sociology	3		3
	Humanities Elective: Art, Drama or Foreign Lang. Music, Philosophy)	3		3
	General Elective	3		3
		15	15	

SEMESTER 3

	Literature Elective	3		3
	Elective (Hist., Econ., or Pol. Sci.)	3		3
	Science or Math Elective (see Note 2)	3		3
	Elective	3		3
	Elective	3		3
		15	15	

SEMESTER 4

	Elective	3		3
	Elective	3		3
	Elective	3		3
	Elective	3		3
	Elective	3		3
		15	15	

- (1) Select from MM 120, MM 121, or MM 101 - MM 103.
- (2) Select from LE 200, LE 201, LE 203 or LE 202.
- (3) One college-level science is required for graduation.

NOTE: All courses presented for degree must be non-developmental and college-level to total 60 semester hours.

This is the recommended course sequence for students meeting General Studies degree requirements.

Students in Pre-Health, Pre-Technology, Pre-Engineering, or Pre-Service courses will find recommended priorities in the General Studies Information Booklet and should consult with their faculty advisor.

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Arts in General Studies will be awarded.

An example of a specific General Studies concentration is in the area of Art. A typical course of study is provided in the following. Students take the required General Studies courses and the elective courses taught by the Art Department. Upon the successful completion of requirements for this program, as listed below, the degree of Associate of Arts in General Studies will be awarded.

SEMESTER 1

No.	Title	Credits
LE 100	English Composition 1	3
LA 147	Basic Design	3
	College Level Math	3
NP 100	General Psychology	3
	Studio Elective*	3
		15

*Pottery, Printmaking, Painting, Crafts.

SEMESTER 2

LE 200	English Composition 2	3
LA 147	Basic Drawing	3
	Math or Lab Science	3 or 4
NS 100	Intro. to Sociology	3
	Studio Elective (see above)	3
		15 or 16

SEMESTER 3

LA 140	Art History: Prehist. to Gothic	3
	Literature Elective	3
	Lab Science	4
	Studio Elective (see above)	3
	Studio Elective (see above)	3
		16

SEMESTER 4

LA 240	Art History: Ren. & Baroque	3
LA 344	Basic Sculpture	3
LA 149	Drawing Composition	3
	Studio Elective (see above)	3
	Studio Elective (see above)	3
		15

DEVELOPMENTAL COURSES AVAILABLE

For students in need of developmental studies, the following courses are available and sometimes required as prerequisites for college-level work; however, they cannot be applied as graduation or transfer credit.

- LD 091-093 - Reading Comprehension & Vocabulary Development Modules
- LD 099 - Communication Skills I
- LD 011-013 - English as a Second Language I, II, III
- LD 080 - Study Skills (taught in Spanish)

-
- LD 089 - Basic English Conversational Skills I (Bilingual)
 - LD 031 - Basic English Conversational Skills II (Bilingual)
 - LD 096 - Basic Writing Skills for Bilinguals
 - LD 027 - English Reading & Comprehension 1 (Bilingual)
 - LD 028 - English Reading & Comprehension 2 (Bilingual)
 - LD 032 - English Reading & Comprehension 3 (Bilingual)
 - MM 071-073 - Basic Arithmetic
 - MM 081-083 - Elementary Algebra
 - MM 091-093 - Intermediate Algebra
 - MP 090 - Basic Science I: Introduction to Chemistry
 - MP 092 - Basic Science II: Introduction to Physics
 - MB 090 - Basic Science III: Introduction to Biology



LAW ENFORCEMENT/CRIMINAL JUSTICE

A criminal justice program is offered for students desiring to develop a career in Law Enforcement. In addition, there is opportunity for in-service police officers who are desirous of improving their knowledge and abilities through study of specific police science courses and various general education subjects. The objective of this two-year program is to familiarize the student with legal, technical and practical aspects of police procedures. The ever-increasing crime rate, changing social order, changes in the criminal laws and major court decisions are all factors that have made the law enforcement officer's role one of extreme importance and ever-increasing complexity in modern society. Toward this end, the student will be provided with a strong background in the basic administration of justice as well as a general knowledge of the constitutional safeguards as afforded in the Bill of Rights. This program also includes study in the social science area and a general choice of electives. In-service personnel may be eligible for federal grants under the Law Enforcement Education Program (LEEP), which began operation in 1969 following passage of the Omnibus Crime Control and Safe Streets Act of 1968. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Law Enforcement will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition I	3		3
NS 100	Intro. to Sociology I	3		3
LL 100	Criminal Procedures I	3		3
LL 110	Intro to Criminal Justice	3		3
AE 100	E.M.T. I	2	2	3
		14	2	15

SEMESTER 2

LE 200	Comp. 2: Intro. to Lit.	3		3
NS 200	Social Problems	3		3
LL 200	Criminal Procedures 2	3		3
LL 230	Criminal Evidence	3		3
AE 200	E.M.T. 2	2	2	3
		14	2	15

SEMESTER 3

NP 100	General Psychology	3		3
NI 100	Amer. Gov't & Politics	3		3
LL 300	Criminal Law I	3		3
LL 340	Criminal Investigation	3		3
	Elective	3		3
		15		15

SEMESTER 4

LF 122	Conversational Spanish	3		3
NP 400	Prin. of Normal/Abnormal Behavior	3		3
LL 400	Criminal Law 2	3		3
LL 450	Law Enforce Mgt. & Plan.	3		3
	Elective	3		3
		15		15

LL 100-CRIMINAL PROCEDURES 1

3 credits

To familiarize the student planning a career in law enforcement with the Constitutional requirements and safeguards attendant throughout the criminal process, from investigation through arrest, interrogation, indictment, trial, and sentencing. Included is an in-depth review of the Bill of Rights and its influence in modern society. Heavy emphasis is placed on actual case study and review of recent Supreme



Court decisions, especially as related to practical situations and problems confronting Law Enforcement personnel. Selected readings focus on practical application to Constitutional principles to practical situations.

PREREQUISITE: Intro. to Criminal Justice LL 110 or permission of the Department Chairperson.

Offered Fall Semester

LL 110-INTRODUCTION TO CRIMINAL JUSTICE 3 cr.

An introduction and basic survey of criminal justice and the court systems, both state and federal. The course explores the concept of bail, the functions and roles of the Judge, Prosecutor, Grand Jury, Defense Attorney, and Public Defenders, and sentencing in the courts. Also examined are the functions and objectives of the Probation Officer and Parole Office, especially as related to rehabilitation of the offender. The role of the policeman in modern society is discussed and explored in detail.

Offered Fall Semester

LL 200-CRIMINAL PROCEDURES 2

3 credits

Continuation of Criminal Procedures 1 LL 100. PREREQUISITES: Criminal Procedures 1 LL 100 and Intro. to Criminal Justice LL 110 or permission of Department Chairman. Offered Spring Semester

LL 230-CRIMINAL EVIDENCE**3 credits**

An analytical study of the rules of evidence, including such general areas of Relevancy and Materiality, Hearsay Evidence, Introduction of Writings, Competency and Privilege, and Parole Evidence rule. Probative matter legally presented at the trial of a criminal case is given special attention. Also examined are rules concerning the admission of evidence in such specific areas as Search and Seizure, Pre-Trial Identifications, admission of confessions, electronic surveillance, presumptions and privileges. **PREREQUISITES:** Intro. to Criminal Justice LL 110 or permission of Department Chairperson. Offered Spring Semester

LL 300-CRIMINAL LAW 1**3 credits**

This course explores and examines the substantive law of crimes, including the general and special areas of Criminal Laws. Of special interest is a survey of crimes against the person, crimes against property, parties to crimes, defenses based on justification, and the nature of the criminal act and conduct. Emphasis is placed on analysis of elements of particular crimes, offenses, and punishments through an examination of the statutes and case example. **PREREQUISITE:** Intro. to Criminal Justice LL 110 or permission of the Department Chairperson. Offered Fall Semester

LL 340-CRIMINAL INVESTIGATION**3 credits**

An introduction to field investigation, including conduct at the scene of the crime, interviewing and interrogation of witnesses and suspects, the use of informants, and techniques of surveillance. Emphasis is placed on special investigative techniques and on court procedures of the police case. Offered Fall Semester

LL 400-CRIMINAL LAW 2**3 credits**

Continuation of Criminal Law 1 LL 300. **PREREQUISITES:** Criminal Law 1 LL 300 and Intro. to Criminal Justice LL 110 or permission of Department Chairperson. Offered Spring Semester

LL 411 - JUVENILE PROCEDURES**3 credits**

This course examines the role of the police in delinquency prevention and the make-up of Youth Service Division within the Police Department. Emphasis is on theory, administration, control, treatment, confinement, community resources, relationships with the public and the juvenile court.

LL 412 - LAW ENFORCEMENT PHOTOGRAPHY**3 cr.**

The objective of this course is to give police officers an introduction to photography in law enforcement and police work generally. Various photographic techniques are illustrated in relation to their possible use in several areas of law enforcement. Emphasis is on photography as a valuable tool in law enforcement.

LL 413 - PAROLE, PROBATION & REHABILITATION**3 credits**

This course familiarizes the student planning a career in Law Enforcement with laws, rules, and regulations attendant with Probation and Parole and Corrections, as well as with the basic concepts and mechanics of each. The course also examines the organizational structure of Probation, the Parole Board, and the Department of Corrections in Massachusetts. Theories employed in the sentencing and rehabilitation of different kinds of offenders will be studied, along with an analysis of rehabilitation of the offender in the community versus in penal institutions. Utilization and effectiveness of work-release programs, half-way houses and treatment centers for drug offenders and alcoholics will be considered.

LL 415-POLICE-COMMUNITY RELATIONS**3 credits**

This course will examine the relationship between police and the community they serve. This relationship has often been marked by hostility and lack of confidence in the police, particularly in minority group areas. How this hostility is reflected in day-to-day police operations, recruiting, morale and safety of the individual officer will be examined through the course readings, lectures and discussion. The response of police to these pressures will also be examined. The problem of police ethics and the role this plays in developing a police image in the community will be explored. What part police-press relations plays in the development of police-community relations will be reviewed through actual police related news stories. The ultimate question of freedom versus authority of the police state versus constitutional democracy will be examined in relationship to the course reading and discussions.

LL 450-LAW ENFORCEMENT MANAGEMENT & PLANNING**3 credits**

Consideration of police problems at the administrative level, including coordination of all branches of a police department. An evaluation of line, staff, and auxiliary functions and the interrelationship of each. The purpose, need, and scope of planning in the police operation, including staffing, correction of data and use of data processing. Offered Spring Semester

MC 107 - FORENSIC SCIENCE**3 credits**

An introductory survey aimed at providing the student with a basic general understanding of the field of forensic science, including procedures commonly employed at a crime scene investigation as well as in the laboratory. In addition this course is aimed at introducing the student to the application of various fields of science; i.e., medicine, pharmacy, chemistry, etc., for the purposes of obtaining admissible evidence for use in court trials. In general, the laboratory and scientific process as used in supporting the law enforcement function is examined. The lecture method is the primary source of instruction together with laboratory experimentation on a limited basis.

37 credits + more

fall 01

LIBERAL ARTS TRANSFER

The Liberal Arts Transfer curriculum is designed to parallel the first two years of a four year institution's liberal arts program. It is for students who intend to transfer to a senior college and work toward a Bachelor's degree. The minimum requirements for the degree are 62 semester hours (20 courses), a minimum cumulative quality point average of 2.0, including 6 credits of English Composition, 15 credits in the Humanities, 15 credits in the Social Sciences, and 14 credits in Mathematics and Natural Sciences, as shown below. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Arts in Liberal Arts Transfer will be awarded.

SEMESTER 1

	Class	Lab	Credit
LE 100 English Composition 1	✓		3
Math: MM101-103; MM120; MM122 or Lab Science	✓	3	3
Liberal Arts Elective (Spanish or French Recom.)*3			3
History: Western Civ 1 or Early US History	✓	3	3
NP 100 General Psychology or NS 100 Intro. To Sociology	✓	3	3
	15		15

SEMESTER 2

LE 200 Comp.2: Intro. to Lit.	✓	3	3
History: Western Civ 2 or Modern US History	✓	3	3
Liberal Arts Elective (Spanish or French Recom.)*3	✓		3
Math: MM105-107, MM121, MM222; MM142 or Lab Science	3		3
NS 100 Intro To Sociology or NP 100 General Psychology	3		3
	15		15

SEMESTER 3

Literature Elective: English, American, World, or other Literature	3		3
Laboratory Science	3		4
Liberal Arts Elective (Spanish or French Recom.)*3			3
LE 203 Fundamentals of Speech	3		3
NE 100 Principles of Economics or NI 100 Economics 1 or Elective: Math or Science	3		3
	15	3	16

SEMESTER 4

Literature Elective: English, American, World, or other Literature	3		3
Laboratory Science	3		4
Liberal Arts Elective (Spanish or French Recom.)*3			3
NI 100 Am Gov't and Politics or NE 100 Economics 1	3		3
Elective: Liberal Arts	3		3
	15	3	16

* Liberal Arts Electives Include: Math, Science, Social Sciences, Humanities/Fine Arts.



Engineering Technologies



Spring '82

Let.
Bowl

ADVANCED METAL MACHINING TECHNOLOGY

The Advanced Metals Machining curriculum is designed for persons with basic machine knowledge and experience. Graduates will likely compete for positions well above starting salaries in the machining field. Given fundamental skills, knowledge, job experience, and a specially designed, broadly-based program, students will receive advanced training for applied skills, technical or supervisory occupations in the metals machine field resulting in higher wages, job advancement and position security while providing increased economic and competitive advantages to his employer and the community.

Minimum Grade Requirement: Students in Advanced Metals Machining Technology must receive a grade of "D" or better and a Q.P.A. of 2.0 for graduation. Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Advanced Metals Machining Technology will be awarded.

SEMESTER 1		Class	Lab	Credit
LE 100	English Composition 1	3		3
FA 130	Blue Print Reading	1	3	2
FA 110	Metals Machining 1	2	9	5
FB 110	Production Process	3		3
MM 101	Mathematics	1		1
MM 102	Mathematics	1		1
MM 103	Mathematics	1		1
		12	12	16

SEMESTER 2				
LE 202	Tech Report Writing	3		3
FA 210	Metals Machining 2	2	9	5
FB 220	Mechanisms	3		3
FA 320	Work Simplification	3	2	4
		11	11	15

SEMESTER 3				
NP 109	Human Relat. at Work	3		3
FB 320	Strength of Materials	4		4
FA 330	Industrial Materials	3		3
FA 310	Metals Machining 3	2	9	5
MP 119	Physics I	3	3	4
		15	12	19

SEMESTER 4				
FA 420	Special. Machinery	0	3	1
FA 410	Metals Machining 4	2	9	5
FB 410	Production Control	4		4
FB 420	Fluid Power	3	2	4
FB 440	Mach. Shop Estimating	3		3
		12	14	17

FA 110-METAL MACHINING 1 5 credits
Student will become familiar with drilling and tapping, boring, counterboring, countersink, spotfacing, reaming, horizontal shaping and filing, hacksaws, powersaws, bandsaws, scales, micrometers, verniers, calipers and combination square.
Offered Fall Semester

FA 130-BLUE PRINT READING 2 credits
Fundamental theory and practice of blue print reading and tolerance application.
Offered Fall Semester

FA 210-METAL MACHINING 3 5 credits
Students will become familiar with dial indicators, gauge blocks, sinebar, various gauges, electric and electronic measuring devices, comparator, use of surface plate, scribe, dividers and center punch. Also slot and slab milling, gang milling, form milling, angle milling, step milling and slotting, index head and index table for both horizontal and vertical work.
Offered Spring Semester

FA 310-METAL MACHINING 3 5 credits
After having taken one semester of Metal Machining 1 and 2, the student is now familiar with the use of equipment related to inspection of the workpiece, use of gauge blocks, sinebar and other allied equipment, surface finish and control checks. Familiarization with engine lathe work, roughland finish turning, facing, knurling, form turning, threading chuck work, both three jaw and four jaw, then grinding, flat survice, slots, shoulders, angles and forms.
Offered Fall Semester



FA 310-METAL MACHINING 4 5 credits
The concepts of numeric control principles and application, how to write a program, point-to-point method in drilling, milling and contour milling, using the flexowriter. More detailed layout using jigs and fixtures also will be studied. Special applications applicable to set-up on machinery also will be studied.
Offered Spring Semester

FA 320-WORK SIMPLIFICATION 4 credits
A broad approach to the use of motion and time study in industry. The uses of various types of charts and operational processes in general problem solving are developed. Typical problems requiring the application of operational analysis are undertaken. Consideration is also given to the work place, the work area and to human engineering. The problem solving technique of evaluating alternate solutions is stressed.
Offered Fall Semester

FA 330-INDUSTRIAL MATERIALS 3 credits
An introduction to engineering materials and their properties. Emphasis is placed on the factors which determine material properties and the process by which they can be changed in a controlled manner. Materials covered include steel, cast iron, non-ferrous metals and alloys, plastics, rubber and some other non-metallics.
Offered Fall Semester

FA 420-SPECIALIZED MACHINERY 1 credit
(FIELD TRIPS) Theory of planning, boring, honing, broaching, turret lathe, production machinery, abrasives, gears, screws, threads, coating and finishing.
Offered Spring Semester

FB 110-PRODUCTION PROCESSES

3 credits

The course is designed to provide the student with knowledge of the various manufacturing processes, castings, forgings, powder metallurgy, plastics, etc., primary working processes, metal shearing, forming, welding and allied processes are discussed. Common metal cutting and removal operations are studied, along with feeds, speeds, finishes and tolerances.

Offered Fall Semester**FB 220-MECHANISMS COURSE**

3 credits

The material presented in this course is to acquaint the student with the functions of mechanical theory both graphically and analytically. It defines velocities and accelerations of cam points, gears, and intermittent motion.

Offered Spring Semester**FB 320-STRENGTH OF MATERIALS**

4 credits

A study of forces and force systems and their applications to materials. Stress and strain produced by the application of forces on beams, columns, trusses and riveted and welded sections are studied for simple tension and shear. Laboratory experiments provide experience in measuring and calculating stresses produced for conditions of tension, compression, shear, bending and torsion. PREREQUISITE: MM101, MM103.

Offered Fall Semester**FB 440-MACHINE SHOP ESTIMATION**

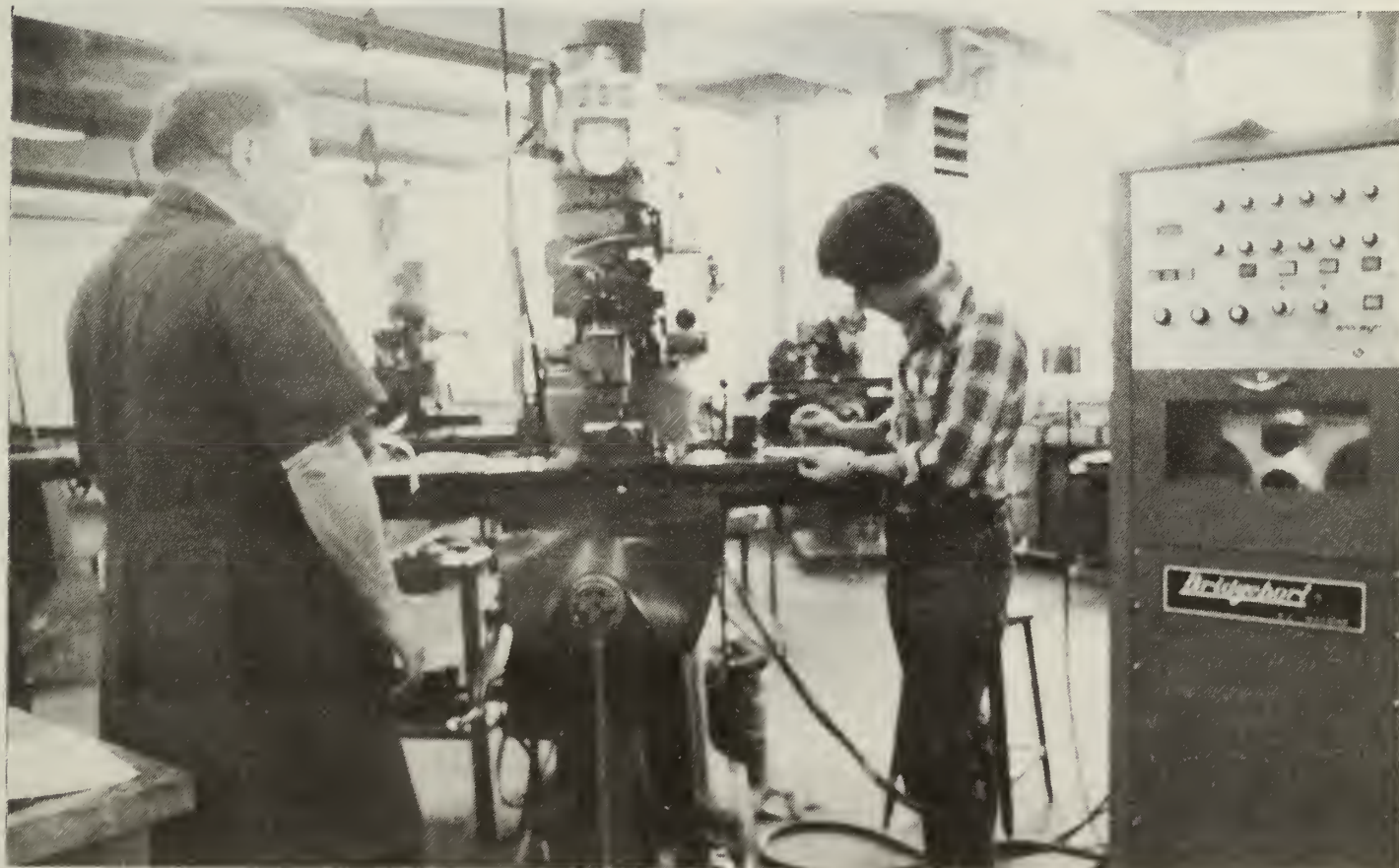
3 credits

The student will become familiar with the methods associated with costing out an item or assembly. He will also become familiar with not only fixed costs, but the varying costs on overhead, general and administrative and the designed profit level. Break-even costs will also be discussed and analyzed related to a business.

Offered Spring Semester**FB 410-PRODUCTION CONTROL**

4 credits

General consideration is given to various phases and elements of production control which are later applied to continuous process companies and typical job shops. Several problem cases serve as a basis for classroom discussion. In addition to a general introduction involving various types of manufacturing plants and their respective products, the course includes a study of the elements that contribute to a successful production control program. Production forecasting, product development, control of materials, routing, scheduling, dispatching and follow-up are studied in sequence in terms of their significance and their relationship to production control. The course is based upon the idea that there is no standard production control procedure applicable to all manufacturing companies, but that there is a correct production control procedure which can be developed for any company, large or small.

Offered Spring Semester

AUTOMOTIVE TECHNOLOGY

The two-year Automotive Technology curriculum consists of practical work experience in engineering, testing, servicing and repairing cars as well as a study of related technical subjects. A knowledge of basic scientific principles and technical information is emphasized so that students can understand why mechanical and technical difficulties occur. Instruction in management and business operations is included in this program to prepare graduates for junior supervisory positions in the automotive field. Major areas to be covered are engines, transmissions, differentials, brakes, carburetors, electrical systems and front-end suspensions. The instructional strategies rely on lectures, demonstrations, overhead projectors, slide films, charts, textbooks and student participation in laboratory assignments. New large quarters accommodate both classroom and shop labs. A separate engine lab is equipped with various live engines, the latest in electronic testing devices, front-end alignment, tire-tuning, and wheel-balancing equipment, together with a dynamometer lab where vehicles can be run under actual road load conditions and be observed with attached electrical devices. Graduates are prepared for employment as automotive service technicians, salesmen and managers and many other related areas to the automotive field. Students in the Automotive Technology program must receive a grade of "D" or better. Attendance is a requirement and is taken into consideration. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Automotive Technology will be awarded.

SEMESTER 1	Class	Lab	Credit
LE 100 English Composition 1	3		3
NP 109 Human Rel. at Work	3		3
IA 110 Gasoline Engine Syst.	2	2	3
IA 120 Drive Line	2	2	3
FA 130 Machine Tool Techniques	0	3	1
MM 101 Mathematics	1		1
MM 102 Mathematics	1		1
MM 103 Mathematics	1		1
	13	7	16

SEMESTER 2	Class	Lab	Credit
LE 200 Comp. 2: Intro to Lit.	3		3
MC 100 Chemistry 1	3	3	4
IA 210 Gasoline Engine Service	2	2	3
IA 220 Auto. Transmissions	2	2	3
GD 110 Prog. Engr. Graphic Mod 1	0	3	1
	10	10	14

SEMESTER 3	Class	Lab	Credit
MC 300 Automotive Chemistry	3	3	4
NE 100 Economics 1	3		3
BP 101 College Accounting 1	3		3
IA 310 Fuel & Electric Sys.	2	2	3
IA 320 Brakes	2	2	3
	13	7	16

SEMESTER 4	Class	Lab	Credit
LE 202 Tech Report Writing	3		3
BK 420 Small Business Mgmt.	3		3
MP 119 Physics 1	3	3	4
IA 410 Steer. & Front Suspension	2	2	3
IA 420 Engine Diag. & Tune-up	2	2	3
	13	7	16

FA 130-MACHINE TOOL TECHNIQUES 1 credit
Covers industrial safety practices, principles of measuring using semi-precision and precision devices. Development of skills in machining techniques, cutting and hand tool, common to bench work and assembly. Application of thread series, tolerances, clearances, limits, fits and other mechanical specifications used in the interchangeability of parts in the automotive industry. Includes lectures, demonstrations, and lab participation by the student.

GD 110-PROGRAMMED ENGINEERING GRAPHICS (MODULE 1) 1 credit
Instruments and their use, applied geometry, orthographic drawing and sketching.
Offered Spring Semester

IA 110-GASOLINE ENGINE SYSTEMS 3 credits
Classroom discussion of several engine support-line systems including cooling, lubrication, crankcase ventilation, oil filtration. Also covered are: spark plugs, distributors, ignition points, engine compression, vacuum, batteries, fuel pumps, and exhaust systems. Laboratory exercises check, test and service these systems on live automobiles.
Offered Fall Semester

IA 120-DRIVE LINE 2 credits
A study involving the function, construction operation, servicing and troubleshooting of automotive type clutch assemblies, standard transmissions, propeller shafts, universal joints, and differentials. Presented through lecture, demonstrations and student participation in disassembly and reassembly of functional components.
Offered Fall Semester

IA 210-GASOLINE ENGINE SERVICE 3 credits
A study involving the construction, operation, trouble shooting and overhaul techniques of modern gasoline engines. Includes valves and valve train components, pistons and piston connecting rod assemblies, crankshaft, cam-shaft, and related bearing assemblies. Laboratory assignments provide experience in disassembly and reassembly of live lab engines. Students make wear measurements and repair or adjustments according to factory recommended procedures and specifications.
Offered Spring Semester

IA 220-AUTOMATIC TRANSMISSIONS 3 credits
Principles of operation, construction, servicing, and trouble-shooting. Covers fluid couplings, planetary gears, hydraulic controls, seals and adjustments. Students participate in disassembly and reassembly of selected transmissions along with actual testing and service work in the school laboratory. Meets two times a week.
Offered Fall and Spring Semester

IA 310-FUEL & ELECTRIC SYSTEMS 3 credits
Fundamentals of electricity and magnetism, testing and servicing of batteries, construction and use of meters, AC alternators, control units, and starting systems. Includes a study of carburation principles, fuel-air ratio requirements, venturi principles and basic carburetor circuits. Students participate in disassembly and reassembly of components and perform required bench tests. Meets two times a week.
Offered Fall Semester



IA 320-BRAKES

3 credits

Study of basic hydraulics, operation and construction of dual master cylinders, disc brakes, wheel cylinders, and power units. Instruction in system bleeding, machining of drums, disc and brake shoes are performed using modern service equipment. Student assignments provide actual work and diagnostic problems on cars in the laboratory. Meets two times a week.

Offered Fall Semester

IA 410-STEERING & FRONT SUSPENSION

3 credits

Study of steering geometry, linkage, suspension systems, springs, conventional and power steering adjustments and service. Tire wear problems, wheel balance and alignment services are done by the student using the very latest equipment. Meets two times a week.

Offered Spring Semester

IA 420-ENGINE DIAGNOSIS & TUNE-UP

3 credits

Covers theory of operation and testing of all components in the conventional and electronic-ignition system. A study of engine tune-up, exhaust emission devices, and diagnosis using modern test instruments, scopes and infrared exhaust analyzers. Students participate in bench work and actual service problems using the latest electronic devices and the dynamometer lab. Meets two times a week.

Offered Fall Semester



BIO-MEDICAL TECHNOLOGY

Instrumentation is being used increasingly in medical, biological and research fields. This equipment has become so complex that technicians must have a detailed knowledge of bio-medical procedures and bio-medical terminology so that proper functioning of the equipment and safety of the patient can be assured. The program provides the general technical knowledge and understanding of the more commonly used bio-medical instruments, components, systems and circuit techniques.

Minimum Grade Requirement: Bio-Medical Technology students shall maintain a minimum grade of "C" (2.0) for all departmental courses. A grade of "C" or lower will be considered a poor level of performance in any course. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Bio-Medical Instrumentation Technology will be awarded.

SEMESTER 1	Class	Lab	Credit
LE 100 English Composition 1	3		3
MM 101 Mathematics	1		1
MM 102 Mathematics	1		1
MM 103 Mathematics	1		1
MM 231 Engineering Computation 1	1		1
Elective: Humanities	3		3
ET 110 Basic Electronics 1	3		3
ET 115 Electronics Lab	0	4	2
EB 120 Measuring Principles 1	2	3	3
	15	7	18

SEMESTER 2	Class	Lab	Credit
LE 200 Comp.2: Intro. to Lit.	3		3
MC 100 Chemistry 1	3	3	4
ET 210 Electronics 2	3		3
ET 220 Semiconductors	3		3
ET 215 Electronics Lab 2	0	4	2
EB 230 Measuring Principles 2	2	3	3
	14	10	18

SEMESTER 3	Class	Lab	Credit
LE 202 Tech Report Writing or			
LE 203 Speech	3		3
ET 310 Fund. of Pulse & Digital	3		3
Humanities Elective	3		3
EB 320 Calibration & Standardiz.	1	3	2
ET 350 Electronics Lab 3	0	4	2
EB 340 Electronic Circuits	2	3	3
	12	10	16

SEMESTER 4	Class	Lab	Credit
EB 410 Bio-Med Electronic Syst	2	3	3
MB 136 Applied Physiology	3	3	4
EB 420 Instrumentation Project	0	6	2
EB 430 Codes-Laws-Safety	1		1
ED 420 Micro Processor Theory	3		3
	9	12	13

EB-120-MEASURING PRINCIPLES 1 3 credits
Transducers used for temperature, pressure and flow measurements are discussed along with related concepts in physics. Effort is concentrated on such topics as sensitivity, resolution, recordability, linearity and accuracy, with reference to the above transducers. Although not a prerequisite, knowledge of the algebra of linear equations, exponential functions, as well as elementary Trigonometry will be helpful.
Offered Fall Semester

EB 230-MEASURING PRINCIPLES 2 3 credits
This course is an extension of EB120, Measuring Principles 1, where the interest is shifted to acoustical, optical, and radiological devices.
Offered Spring Semester

EB 320-CALIBRATION & STANDARDIZATION 2 credits
Calibration and standardization of instruments may constitute one of the most important duties of instrumentation technicians. Consequently, they should be well acquainted with the various types of standards and their applicability to the problem at hand. This course consists of laboratory work so that technicians may become acquainted with the various procedures through actual experience. In addition, organization of the national bureau of standards, basic units of measurements (SI) and reporting of calibration should be reviewed. **PREREQUISITES:** EB 120, EB 230
Offered Fall Semester

EB 340-ELECTRONIC CIRCUITS 3 credits
An extension and expansion of material covered in ET-220 Semiconductors I. This course will emphasize the laboratory demonstration and investigation of solid-state devices and circuit identification and trouble shooting. **PREREQUISITES:** ET110, ET210 and ET220.
Offered Fall Semester

EB 410-BIO-MED ELECTRONIC SYSTEMS 3 credits
In this course the circuitry of modern medical instrumentation will be investigated. These will include: cardiac monitors, defibrillators, safety test equipment, electrosurgical devices, anesthesia machines, and inhalation therapy equipment. Students will be required to troubleshoot and repair bugged equipment.
Offered Spring Semester

EB 420-INSTRUMENTATION PROJECT 2 credits
The student is to apply his developed theoretical and practical knowledge into the production of a project meeting course requirements. The student must select and develop an original project of his own choosing with complete paper and physical documentation as required by the project advisor. **PREREQUISITE:** Senior Standing.
Offered Spring Semester

EB 430 CODES - LAWS AND SAFETY 1 credit
The student is required to become aware of enforcing agencies and their software. He must know the intent and purpose of those standards. In addition, he must understand how to be in compliance with regulations. **PREREQUISITE:** Senior Standing.
Offered Spring Semester

ED 420-MICROPROCESSOR THEORY 3 credits
The microprocessor in digital control systems, the substitution of software for hardware in logic design and the interface of the microprocessor with external devices. Architectural features of current microprocessors like the Intel 8080 will be examined and a study of the devices' applications will be undertaken.
Offered Spring Semester

ET-110 BASIC ELECTRONICS 1 3 credits
This course is an introduction to the fundamental concepts of electronics. Coverage includes

concepts of electricity, series and parallel circuits, network theorems, laws and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

ET 115-ELECTRONICS LAB 1

2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry.

Offered Fall Semester

ET 210-BASIC ELECTRONICS 2

3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating current are introduced using phasor analysis. Some topics covered include capacitive and inductive reactance, time constraints, transients, power and power factor, the j-operator, resonant circuits, circuit Q and bandwidth, filters and switching circuits. PREREQUISITE: ET110.

Offered Spring Semester

ET 215-ELECTRONICS LAB 2

2 credits

A continuation of Electronics Lab 1, the emphasis in the course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITE: ET115 with a "C minus" or better.

Offered Spring Semester

ET 220-SEMICONDUCTOR CIRCUITS 1

3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered in the course include semiconductor physics, the pn junction diode, tunnel and zener diodes and bipolar transistors. The iv characteristics of these various devices are studied and analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit configurations is undertaken. PREREQUISITE: ET110.

Offered Spring Semester

ET 310-PULSE and DIGITAL CIRCUITS

3 credits

The fundamentals applying to nonsinusoidal pulse, timing and switching circuits are presented. The theory is demonstrated by actual measurement and observation and the circuits are analyzed mathematically in detail. Some of the topics covered include the application of

circuit theorems, waveform analysis, integration and differentiation circuits, semiconductor switches, multivibrators, sawtooth generators and gating and delay circuits.

Offered Fall Semester

ET 350-ELECTRONICS LAB 3

2 credits

This course is a continuation of the laboratory sequence. Digital components such as: and, or nand, and nor gates will be studied. Additional investigations will include the study of flip-flops, drivers, counters, and displays.

Offered Fall Semester



CIVIL ENGINEERING TECHNOLOGY

The Civil Engineering Technology program is designed to provide an engineering background for persons who wish to enter the building and construction industry as engineering technicians, architectural draftsmen, or as construction managers. Students completing this program should also be able to begin work in the areas of surveying and estimating. The design and construction of residential and light commercial structures are stressed. Certain phases of heavy construction and highway development are also covered. Students planning to enter this program should have interests in mathematics & science. However, creative ability is also required in the design laboratories involved in this program. Minimum Grade Requirement: All departmental courses shall be satisfactorily completed. A satisfactory grade shall be defined as one having a letter grade "D" (63% or 1.0 Q.P.A.) or above. Any course failed must be repeated before graduation and each course may be repeated only once. The student must achieve an overall Q.P.A. of 2.0 at the completion of the department course of study. In addition, he must remain in good academic standing as outlined below: A. At the beginning of the second semester, the student must maintain a 1.5 Q.P.A. B. At the beginning of the third semester, the student must maintain a 1.7 Q.P.A. C. At the beginning of the fourth semester, the student must maintain a 1.9 Q.P.A. Any student not meeting the above academic requirements will be placed on academic probation for one semester. If, at the end of this period, no improvement has taken place to bring the Q.P.A. to the required academic level, the student will be removed from the program. Each student must complete Math Modules MM 101 and MM 102 before he/she will be allowed to enter into any of the Civil Engineering series courses in the 2nd, 3rd, or 4th semester. Upon completion of the requirements for this program, as listed below, the degree of Associate in Science in Civil Engineering Technology will be awarded.

SEMESTER 1	Class	Lab	Credits
LE 100 English Composition I	3		3
✓ MM 101 Mathematics **	1		1
✓ MM 102 Mathematics **	1		1
✓ MM 103 Mathematics **	1		1
✓ GC 110 Construction Materials	2		2
✓ GC 120 Arch. Design & Spec. I	2	6	5
✓ GC 130 Const. Methods & Equip.	3		3
✓ MM 231 Engineering Computation I	1		1
	14	6	17

SEMESTER 2	Class	Lab	Credits
✓ LE 200 Comp. 2: Intro. to Lit.	3		3
✓ MM 105 Mathematics **	1		1
✓ MM 106 Mathematics **	1		1
✓ MM 107 Mathematics **	1		1
✓ MM 109 Mathematics **	1		1
MP 119 Physics I	3	3	4
GC 210 Statics	3		3
GC 220 Const. Estimating	2	3	3
	15	6	17

SEMESTER 3	Class	Lab	Credits
NE 100 Economics I	3		3
GC 310 Surveying I	2	6	4
GC 430 Soils & Foundations	3		3
GC 330 Structures I	2	3	3
Elective Humanities or Social Science	3		3
	13	9	16

SEMESTER 4

GC 410 Reinf. Concrete Analysis	2	3	3
GC 420 Construction Management	3		3
GC 430 Transportation I	3	3	4
LE 202 Technical Report Writing	3		3
BD 306 Fortran For Technologies	3	3	4
GC 450 Materials Testing Lab	1	2	2
	15	11	19

** Note: Math MM101 and MM102 must be completed satisfactorily before any 2nd, 3rd and 4th semester Civil Engineering Courses can be taken.

GC 110-CONSTRUCTION MATERIALS

2 credits

A comprehensive introduction to the many building materials is presented as they apply to the construction industry. Materials covered include wood, steel, non-ferrous metals, glass, paper, and plastics. Emphasis is placed on their physical properties, methods of production and their construction applications. Two lecture hours.

Offered Fall Semester

GC 120-ARCHITECTURAL DESIGN & SPECIFICATIONS

5 credits

An introduction to architectural and construction graphic techniques and written specifications. Emphasis is on residential and light commercial and structures including site planning, floor plans, elevations, sections, isometrics, mechanical and electrical drawings and specifications, and blueprint readings. Two lecture and three lab hours.

Offered Fall Semester



p-
nd
be

ts
d-
he
n-
s,
on
c-
two
er

ts
c-
a-
ht
te
s,
gs
s.
er



1

10

10

10

1

1

Offered Fall Semester

3 credits

Offered Fall Semester

3 credits

lab hours. PREREQUISITE: GC-210

GC 410-REINFORCED CONCRETE ANALYSIS 3 credits

Offered Spring Semester

3 credits

Offered Spring Semester

4 credits

Offered Spring Semester

2 credits

Offered Spring Semester

4 credits

Offered Fall Semester

COMPUTER MAINTENANCE TECHNOLOGY

The Computer Maintenance Technology Program is designed to provide the student with the necessary electronics background and the computer "know-how" to deal with the ever-changing computer technology of the space age. This portion will equip the student with well beyond entry-level skills in the area of computer service maintenance; a field in which both demand and remuneration is high. A typical position title is Computer Maintenance Service Worker.

Minimum Grade Requirements: Students in Computer Maintenance Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Computer Maintenance Technology will be awarded.

SEMESTER 1		Class	Lab	Credits
LE 100 English Composition 1	3			3
MM 101 Mathematics *	1			1
MM 102 Mathematics *	1			1
MM 103 Mathematics *	1			1
ET 100 Basic Electronics 1	3			3
ET 115 Electronics Lab 1			4	2
NP 109 Human Rel. at Work	3			3
ET 120 Electronics Graphics	1		2	2
	<u>13</u>		<u>6</u>	<u>16</u>

SEMESTER 2		Class	Lab	Credits
LE 200 English Composition 2	3			3
MM 105 Mathematics *	1			1
MM 106 Mathematics *	1			1
MM 107 Mathematics *	1			1
ET 210 Basic Electronics 2	3			3
ET 215 Electronics Lab 2			4	2
ET 220 Semiconductor Cir. 1	3			3
ED 320 Intro to Programming	1			1
MM 109 Mathematics *	1			1
	<u>13</u>		<u>4</u>	<u>16</u>

SEMESTER 3		Class	Lab	Credits
LE 200 Tech Report Writing	3			3
ET 340 Comp Conc. & Logic Cir	3			3
ET 310 Semiconductor Cir. 2	3			3
ET 320 Communic. Systems 1	3			3
ED 330 Mach. & Assemb. Lang.	3			3
ED 350 Dig. Electr. Lab 1			4	2
	<u>15</u>		<u>4</u>	<u>17</u>

SEMESTER 4		Class	Lab	Credits
ET 430 Fund of Dig Comp Syst	3			3
ET 440 Integrated Electronics	3			3
MP 119 Physics 1	3		3	4
ED 420 Microprocessor Theory	3			3
ED 450 Adv. Computer Topics	3			3
ED 410 Dig. Electr. Lab 2			4	2
	<u>15</u>		<u>7</u>	<u>18</u>

* All math courses from MM-101 to MM-109 must be completed and passed by the start of the third semester.

ED 230-INTRODUCTION TO PROGRAMMING 1 credit
Fundamental concepts of computer programming will be examined in this course. Topics covered will be computer languages and unibus theory.
Offered Spring Semester

ED 330-MACHINE & ASSEMBLY LANGUAGES 3 credits
Input/Output equipment, machine organization, logical design, elementary data structures and assembly language programming. Machine and assembly language for the PDT-11, a typical mini-computer, will be studied in detail and contrasted to other machines. Offered Fall Semester

ED 350-DIGITAL ELECTRONICS LAB 1 2 credits
This course gives the student hands-on experience with logic circuitry studied in DIGITAL LOGIC THEORY. Logic characteristics are studied, gating circuits constructed, and troubleshooting techniques explored.
Offered Fall Semester

ED 410-DIGITAL ELECTRONICS LAB 2 2 credits
This course is a continuation of DIGITAL ELECTRONICS LAB 1. The student studies the operation of fundamental computer building block circuits such as flip-flops, timers, counters, and various interface devices. Consideration is also given to power supply and voltage regulator theory.
Offered Spring Semester

ED 420-MICROPROCESSOR THEORY ~~SECOND~~ 3 credits
The microprocessor in digital control systems, the substitution of software for hardware in logic design and the interface of the microprocessor with external devices. Architectural features of current microprocessors like the Intel 8080 will be examined and a study of the device's applications will be undertaken.
Offered Spring Semester

ED 450-ADVANCED COMPUTER TOPICS 3 credits
Advanced computer concepts are studied in this course. Mass memory devices are studied in detail and consideration is given to the various forms of magnetic recording techniques. Other exotic input/output devices are examined.
Offered Spring Semester



DRAFTING AND DESIGN TECHNOLOGY

The Drafting & Design program attempts to meet the massive demand for people with basic entry-level skills in drafting. This need will increase with the proposed change to the Metric System. With this one-year certificate program, the student will be equipped to enter industry in such positions as a Drafting & Design Technician. Minimum Grade Requirements: students in Drafting & Design Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of requirements for this program, as listed below, a Certificate in Drafting & Design Technology will be awarded.

SEMESTER 1

	Class	Lab	Credit
LE 100 English Composition 1	3		3
LE 202 Tech Report Writing	3		3
GD 110 Program Graphics		3	1
GD 120 Program Graphics		3	1
GD 130 Program Graphics		3	1
GD 140 Program Graphics		3	1
GD 150 Program Graphics		3	1
MM 101 Mathematics	1		1
MM 102 Mathematics	1		1
MM 103 Mathematics	1		1
	<u>9</u>	<u>15</u>	<u>14</u>

SEMESTER 2

GD 210 Program Graphics		3	1
GD 220 Program Graphics		3	1
GD 230 Program Graphics		3	1
GD 240 Program Graphics		3	1
FB 120 Engr Graphics 371	1	3	2
GD 260 Graphics Design Lab	1	3	2
FB 220 Mechanisms	3		3
Social Science Elective	3		3
	<u>8</u>	<u>18</u>	<u>15</u>

GD 110-GD 240-PROGRAMMED ENGINEERING GRAPHICS

1 credit per module

GD 110-Module 1, Instruments and their use, applied geometry, orthographic drawing and sketching.

GD 120-Module 2, Lettering, auxiliaries; Normal and edge views sections and conventions.

GD 130-Module 3, Intersections and developments, drawings and the shop working drawings.

GD 140-Module 4, Dimensions, notelimits, catalogues.

GD 150-Module 5, Introduction, electricity and batteries, schematics, assembly-disassembly.

GD 210-Module 6, Power distribution graphics; Electrical drafting, contractor drawings.

GD 220-Module 7, Electronics graphics; Electrical (electronic drafting), system design, special equipment.

GD 230-Module 8, Architectural graphics; Oblique drawings, drawing of structures, graphical vector analysis.

GD 240-Module 9, Perspective drawings, shapes and shadows, presentation drawings.

GD 260-GRAPHICS DESIGN LAB

2 credits

The student will have the opportunity to put together all his knowledge obtained on various projects assigned by the instructor. He will do the design and rectify by calculations and computations in relationship to this along with the economical aspects. Offered Fall & Spring

FB 120-ENGINEERING GRAPHICS 371

1 credit

An introduction to spatial, architecture and machine drawing requirements is provided. These will principally be applied to working drawings, detail drawings, structural shapes, & frames. Military specifications and other standards are introduced. Offered Spring Semester



ELECTRICAL TECHNOLOGY

The Electrical Technology program prepares students for work in the development, installation and maintenance of industrial automated systems or related instrumentation applications. Graduates of the program have also been successful as field representatives for manufacturers in the areas of product application and sales. Students planning to enter this field should have a desire for achievement & involvement in mathematics, science and technology.

Minimum Grade Requirements: All "EE" and "ET" series Electrical Technology courses must be successfully completed with a grade of "D" or better for graduation. These Electrical Technology courses must be taken in a sequential order. That is, second semester courses cannot be taken until the first semester prerequisite courses are successfully completed as outlined in the Electrical Technology program. Before starting the third semester, the student must have successfully completed the Mathematics Modules MM 105-109. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Electrical Technology will be awarded.

SEMESTER 1

	Class	Lab	Credit
EE 110 Fund. of Electricity	3	3	4
EE 120 Engr Graphics 311	3		3
MM 101 Mathematics **	1		1
MM 102 Mathematics **	1		1
MM 103 Mathematics **	1		1
LE 100 English Composition 1	3		3
NP 109 Human Rel. at Work 3	3		3
MM 231 Engineering Computations	1		1
	16	3	17

SEMESTER 2

EE 210 A.C. Fundamentals	3	3	4
EE 220 Fund. of Electronics 311	4		4
MM 105 Mathematics **	1		1
MM 106 Mathematics **	1		1
MM 107 Mathematics **	1		1
MM 109 Mathematics **	1		1
LE 200 English Composition 2	3		3
NP 409 Industrial Psychology	3		3
	17	3	18

SEMESTER 3

EE 310 AC & DC Motor Control	2	3	3
EE 320 Ind. Electronic Circuits	2	3	3
EE 330 Semiconductors/Transistors	2	3	3
ET 340 Computer Conc & Logic Cir	3		3
MP 119 Physics 1	3	3	4

SEMESTER 4

EE 410 Ind Electro-Mech Syst.	2	3	3
EE 420 Fund of Instrumentation	2	3	3
EE 430 Semicond./Transistors 2	2	2	3
LE 203 Fundamentals of Speech	3		3
LE 202 Tech Report Writing	3		3
EE 440 Electro-Mech Cir. Design	1	2	2
	13	10	17

** Math courses MM 104 through MM 109 must be completed and passed by start of September (3) third semester.

EE 110-FUNDAMENTALS OF ELECTRICITY 311 3 cr.
Course dealing with the basic theories & concepts essential to a practical understanding of all phases of electricity and electronics. It treats fully the nature of electricity and

magnetism, including an exposition of the electron theory as it relates to electricity. Consideration is given to Ohm's Law, and to associated circuits, batteries, induced E.M.F., magnetic circuits, DC measuring instruments, motors and generators. Offered Fall Semester

EE 120-ENGINEERING GRAPHICS 311

3 credits

This course prepares a person to take a component part and present it in accordance with graphic language. This part must then be utilized with other parts graphically. All research necessary for the parts hardware and software must be included. The student's concurrent electrical knowledge is utilized in graphic and symbolic form for electrical circuitry and construction techniques. This is carried on to the degree that as he establishes his future electrical knowledge, he can easily implement his graphic knowledge expansion. Standards of the industry are introduced continuously at the appropriate time for different phases of the art. Offered Fall Semester

EE 210-A.C. FUNDAMENTALS

4 credits

Understanding of the basic electrical and electronic principles of DC circuits extended to include the more complex area of AC circuits. Generation, vector representation & algebraic manipulation of the sine wave, inductance, capacitance, resonance and Ohm's Law for alternating current circuits are studied. Practical methods of measuring inductance, capacitance and impedance are discussed along with AC & DC bridge circuits. Included also are the rudiments of complex-wave formation and analysis. In the laboratory, the student will perform experiments confirming theory and will be given experience and training in the repair of AC equipment. Offered Spring Semester

EE 220-FUNDAMENTALS OF ELECTRONICS

3 credits

The principles and properties of solid-state devices are discussed in detail. Demonstration time is given for the student to observe construction methods, device operation and solid state reaction phenomenon. Offered Spring Semester

EE 310-A.C. & D.C. CONTROL

3 credits

Electrical & magnetic circuits are studied as they apply to the construction, principles of operation and performance characteristics of both A.C. & D.C. motors. Laboratory and lecture are combined in the study of the motors and the auxiliary apparatus needed for their control. **PREREQUISITES:** EE110, 210, 220.

Offered Fall Semester

EE 320-INDUSTRIAL ELECTRONIC CIRCUITS

3 cr.

This course deals with the fundamental circuits and components most frequently found in industrial electronic equipment. The basic circuit of a complete electronic control system and the characteristics of the component parts of each circuit are studied. Emphasis is placed on the characteristics of, solid state devices and sensing elements. The laboratory section of the course is designed to verify by means of experiments the characteristics of the components and circuits used in industrial electronics. It is intended to develop an under-

standing of those circuit construction practices and testing techniques common to the field. PREREQUISITES: EE 110, 220, 210.

Offered Fall Semester

EE 330-SEMICONDUCTORS & TRANSISTORS 1

3 credits

The principles & electrical properties of semiconductor diodes and transistors are studied. Special emphasis is placed upon the uses of semiconductor devices in rectifiers, amplifiers oscillators and special circuits. The accompanying laboratory work enables the student to measure the properties of these devices and to verify their operating principles and uses in actual circuits. PREREQUISITES: EE110, 220, 210.

Offered Fall Semester

EE 340-COMPUTER CONCEPTS & LOGIC CIRCUITS

3 credits

This course is an introduction to the concepts of computer operation. Coverage includes computer programming, computer math, Boolean algebra and logic circuitry. The aim of the course is to present the necessary information essential to an understanding of digital computers and numeric control systems.

Offered Fall Semester

EE 410-INDUSTRIAL ELECTROMECHANICAL SYSTEMS

3 credits

Class and laboratory work in basic pneumatic, hydraulic and mechanical systems which make use of previously acquired understanding of electrical and electronic techniques. The application to automated equipment and systems is stressed. PREREQUISITES: EE310, 320, 220.

Offered Spring Semester

EE 420-FUNDAMENTALS OF INSTRUMENTATION 3 cr.

The student is introduced to the types of meas-

uring means and their function, theory of operation, practical construction and use. Instrumentation terminology, flow level and analysis are studied. Experiments are performed in the laboratory. PREREQUISITES: EE110, 210, 220.

Offered Spring Semester

EE 430-SEMICONDUCTORS & TRANSISTORS 2

3 credits

A study of the circuitry & design of semiconductor devices commonly used in industry. Among the topics covered are servo controls, switching networks, regular circuits and special amplifiers. The nature and design of these circuits are analyzed using the latest components available. PREREQUISITES: EE220, 210, 330.

Offered Spring Semester

EE 440-ELECTROMECHANICAL CIRCUIT DESIGN

2 credits

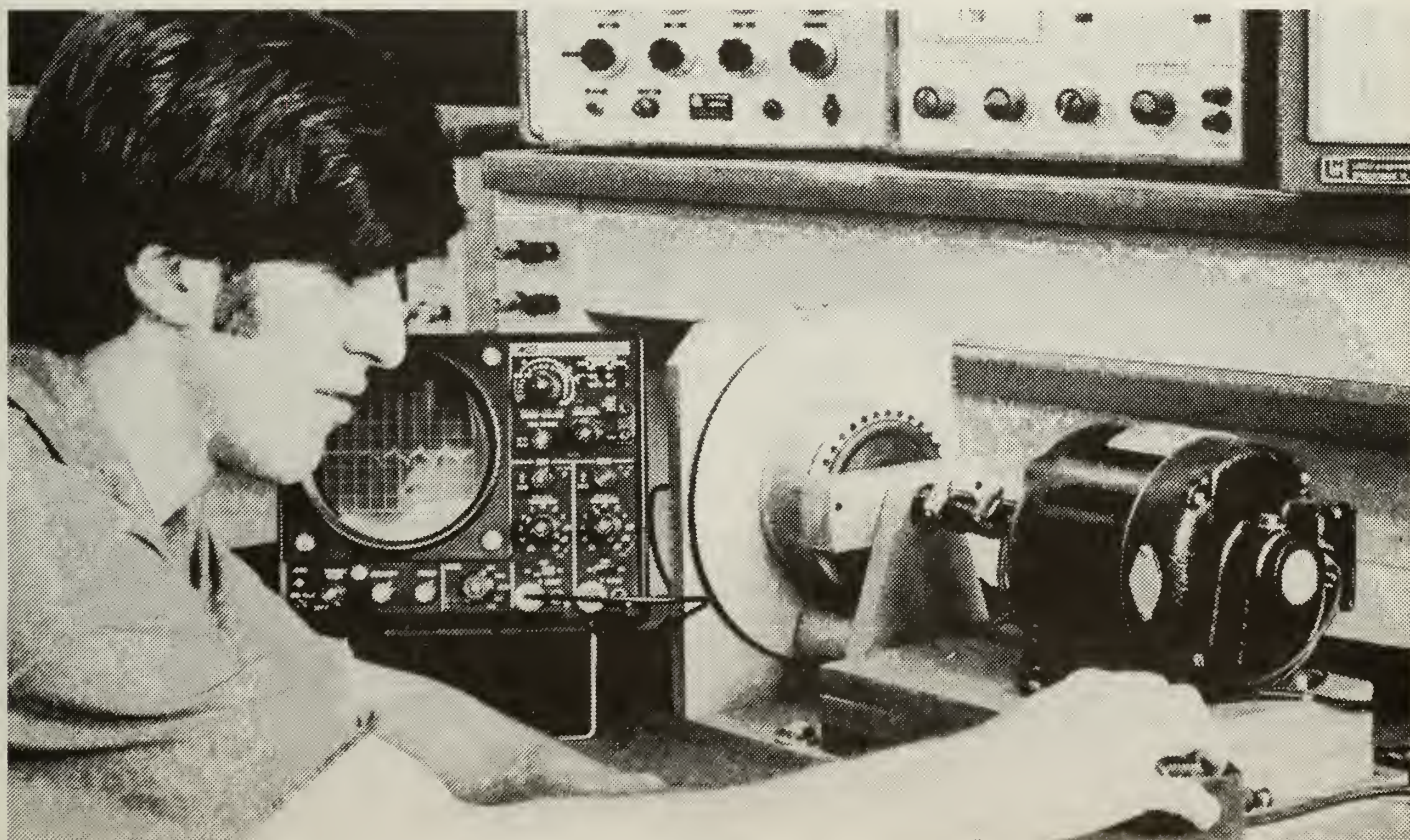
The design & application to industrial electromechanical systems of electrical circuitry using solid state devices, integrated circuits, memory storage & electronics. PREREQUISITES: EE110, 220, 210.

Offered Spring Semester

EE 490-FUNDAMENTALS OF POWER CIRCUITS

3 credits

The classes will be geared to the discussion of power circuits at the primary feeder level and should be of interest to industrial plant personnel although it will also be geared to utility people. Fundamentals of power-feeder calculations will be covered and will include power, power factor and power factor correction problem solving. Equipment to be studied will include generators, power transformers, potential and current transformers, power circuit breakers and relays. Typical power feeders will be described combining these equipments.



ELECTRO-MECHANICAL TECHNOLOGY

Electro-Mechanical Technicians are becoming increasingly important in a variety of industries. Various functions performed might include Customer or Product Service; Product Design and Testing; Building and Evaluating Test Equipment; Building and Testing Prototypes; Production Equipment Installation; Quality Control and Assurance; Test Equipment Maintenance; Production Equipment Maintenance; Product Engineering and Operation of Research Equipment. The advantage to the student in this program is a training in both the electronic and the mechanical fields.

Minimum Grade Requirement: Students must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Electro-Mechanical Technology will be awarded.

SEMESTER 1

	Class	Lab	Credit
LE 100 English Composition 1	3		3
MM 101 Mathematics	1		1
MM 102 Mathematics	1		1
MM 103 Mathematics	1		1
NP 109 Human Relations at Work 3			3
EM 110 Electro-Mech. Systems	3	3	4
FB 120 Engr. Graphics 371	1	3	2
	<u>13</u>	<u>6</u>	<u>15</u>

SEMESTER 2

LE 202 Tech Report Writing	3		3
MM 140 Stat. & Quality Control 3			3
EM 210 Control Systems Theory 3		3	4
EM 220 Mechanisms	3		3
Elective: Social Sci.	3		3
	<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 3

EE 440 Electro-Mech Cir.Design 1	3		2
EM 320 Strength of Materials 4			4
EM 330 Industrial Materials 3			3
EM 340 Systems Evaluation 1 4			4
MP 119 Physics 1	3	3	4
	<u>15</u>	<u>6</u>	<u>17</u>

SEMESTER 4

EE 410 Ind. Electro-Mech Syst. 2	3		3
FB 420 Fluid Power	3	2	4
EM 430 Engineering Economy	3		3
EM 440 System Evaluation 2	4		4
	<u>12</u>	<u>5</u>	<u>14</u>

EM 110-ELECTRO-MECHANICAL SYSTEMS 4 credits

An Introduction to devices where both electrical and mechanical principles are utilized. The use of drawings, schematics, hand tools and common shop equipment forms an important part of the course. Electro-mechanical components included are switches, relays, solenoids, motors, generators and actuators. Electro-magnetic principles and circuits and their application to component operation is the central theme.

Offered Fall Semester

EM 210-CONTROL SYSTEM THEORY 4 credits

The control of relays, solenoids, contactors, and motors. Modern solid state control devices such as silicon control rectifiers, unijunction transistors, diacs and triacs are used to illustrate the principles of control as they are applied to electro-mechanical devices. The control of levels, rates and position through the

use of electro-mechanical, hydraulic, pneumatic, mechanical, electrical and electronic devices. Topics include voltage regulators, synchros, amplifiers, open and close-loop systems, differential controls, integral controls, stability and response time.

Offered Spring Semester

EM 340-SYSTEMS EVALUATION 1 4 credits

Combinations of electrical, mechanical, hydraulic and pneumatic systems, designed & evaluated for continuity and use. Simple systems, practical application and interplay is stressed along with troubleshooting various systems.

Offered Fall Semester

EM 440-SYSTEMS EVALUATION 2 4 credits

Continuation of Systems Evaluation 1 on more complex equipment.

Offered Spring Semester

EE 410-INDUSTRIAL ELECTRO-MECHANICAL SYSTEMS 3 credits

Class and laboratory work in basic pneumatic, hydraulic and mechanical systems which make use of previously acquired understanding of electrical and mechanical techniques. The application to automated equipment and systems is stressed.

Offered Spring Semester

EE 440-ELECTRO-MECHANICAL CIRCUIT DESIGN 2 credits

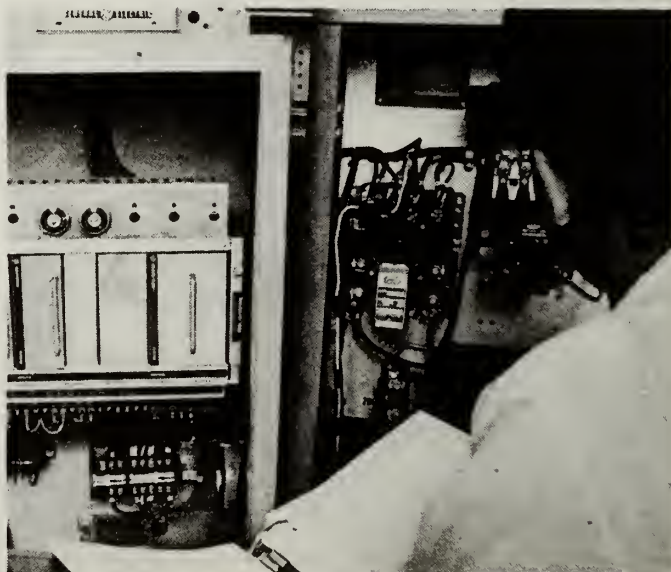
The design & application to industrial electro-mechanical systems of electrical circuitry using solid state devices, integrated circuits, memory storage and electrons.

Offered Fall Semester

FB 120-ENGINEERING GRAPHICS 371 2 credits

An Introduction to spatial, architectural and machine drawing requirements is provided. These will principally be applied to working drawings, detail drawings, structural shapes and frames. Military specifications and other standards are introduced.

Offered Fall and Spring Semesters



ELECTRONIC BENCHMARK TECHNOLOGY

The Electronic Benchmark Technology program offers a curriculum designed to prepare the student for the many and varied careers available in the field of consumer electronics service and maintenance. Training for this field is provided by a two-year technical program of specialized, intensive instruction which emphasizes modern consumer electronics devices from both a theoretical and practical viewpoint. The laboratory courses in the program help the student to develop an expertise in the systematic troubleshooting of a wide variety of electronic devices.

Minimum Grade Requirement: Students in Electronic Benchmark Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Also, before starting the third semester, the student must have successfully completed the Mathematics Modules MM101-103. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Electronic Benchmark Technology will be awarded.

SEMESTER 1	Class	Lab	Credits
LE 100 English Composition 1	3		3
NP 109 Human Rel. at Work	3		3
ET 110 Basic Electronics 1	3		3
ET 115 Electronics Lab 1		4	2
ET 120 Graphics for Elec Tech 1		2	2
MM 101 Mathematics *	1		1
MM 102 Mathematics *	1		1
MM 103 Mathematics *	1		1
MM 231 Eng. Computations	1		1
	14	6	17

SEMESTER 2	Class	Lab	Credits
LE 200 English Composition 2	3		3
ET 210 Basic Electronics 2	3		3
ET 220 Semiconductor Cir. 1	3		3
ET 215 Electronics Lab 2		4	2
Elective: Social Sci.	3		3
	12	4	14

SEMESTER 3	Class	Lab	Credits
BK 420 Small Bus. Management	3		3
ET 320 Comm. Systems 1	3		3
EW 310 Electr. Circuitry	3		3
EW 320 Elec Troubleshoot. 1	2	4	3
LE 202 Tech Report Writing	3		3
EW 330 Elect. Instrument.		4	2
	14	8	17

SEMESTER 4	Class	Lab	Credits
MP 119 Physics 1	3	3	4
EW 420 Elec Troubleshoot. 2	2	4	3
EW 440 Electronic Licenses	2	1	3
LE 203 Fund. of Speech	3		3
EW 430 Spec.Tps.in Trbl Shoot.	2	2	2
	12	10	15

* All Math courses MM101-103 must be completed and passed by September start of 3rd Semester.

EW 310-ELECTRONIC CIRCUITRY 3 credits
This course is an introduction to electronic circuitry that is peculiar to home-entertainment equipment. Basic "building block" circuits will be considered. Coverage includes rectifiers, voltage regulators, oscillators, amplifiers, detectors and feedback circuits. Emphasis will be placed on circuitry utilized in amplifier, radio and television equipment.
PREREQUISITES: Senior Standing

Offered Fall Semester

EW 320-ELECTRONIC TROUBLESHOOTING 1 3 credits
This is the first course in a sequence of two which is designed to give the student practical troubleshooting experience. The course consists of a lecture portion and a laboratory section. Topics covered in the lecture will be directly related to the laboratory work and will consist of material on home-entertainment equipment primarily. The laboratory section will be concerned with giving students practical experience with electronic troubleshooting techniques. The course emphasis will be on electronic audio and radio equipment trouble-shooting methods. Offered Fall Semester

EW 330-ELECTRONIC INSTRUMENTATION 2 credits
This course is an introduction to the theory of operation and the application of modern electronic measurement equipment. Topics covered include oscilloscopes, electronic volt-ohm-meters, digital instruments, signal generators, sweep generators, repair test equipment, recorders, transducers and data acquisition equipment.
PREREQUISITES: Senior Standing.

Offered Fall Semester

EW 420-ELECTRONIC TROUBLESHOOTING 2 3 credits
A continuation of Electronic Troubleshooting 1, this course shifts its emphasis to monochromic and color television systems. Again, the lecture portion of the course covers the necessary theory and the laboratory section gives the student practical troubleshooting experience. The theory of monochromic television receivers is covered in detail using signal tracing techniques. Color television operation is discussed extensively and alignment and repair methods explored and attempted in the laboratory.
PREREQUISITES: EW320 Offered Spring Semester

EW 430-SPECIAL TOPICS IN TROUBLE SHOOTING 2 credits
This course is an introduction to electronic construction practices. Printed circuit board theory and layout, heat sinking techniques, soldering techniques, chassis layout, electronic tools & machining principles and numerous other topics are covered and examined. Offered Fall Semester

EW 440-ELECTRONICS LICENSES 3 credits
This course is an introduction to the fields of radio & television broadcasting. A general survey of the media including history, government control & regulations, present & future trends and career opportunities is undertaken. Intensive drill on topics in both radio law & theory is done in preparation for the Federal Communications Commission license examinations. **PREREQUISITES:** Senior Standing and ET320.
Offered Spring Semester

ET 110-BASIC ELECTRONICS 1 3 credits
This course is an introduction to the fundamental concepts of electronics. Coverage includes concepts of electricity, series & parallel circuits, network theorems & laws, and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current

networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

ET 115-ELECTRONICS LAB 1

2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments & equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry.

Offered Fall Semester

ET 210-BASIC ELECTRONICS 2

3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating currents are introduced using phasor analysis. Some topics covered include capacitive & inductive reactance, time constraints, transients, power & power factor, the j-operator, resonant circuits, circuit Q & bandwidth, filters, and switching circuits.

PREREQUISITES: ET110. Corequisites: MM101-103.

Offered Spring Semester

ET 215-ELECTRONICS LAB 2

2 credits

A continuation of Electronics Lab 1, the emphasis in this course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems.

PREREQUISITES: ET115 with a "C minus" or better.

Offered Spring Semester

ET 220-SEMICONDUCTOR CIRCUITS 1

3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered in the course include semiconductor physics, the pn junction diode, tunnel & zener diodes, and bipolar transistors. The IV characteristics of these various devices are studied and analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit configurations is undertaken.

PREREQUISITES: ET110. Corequisites: ET215, MM101-3

Offered Spring Semester

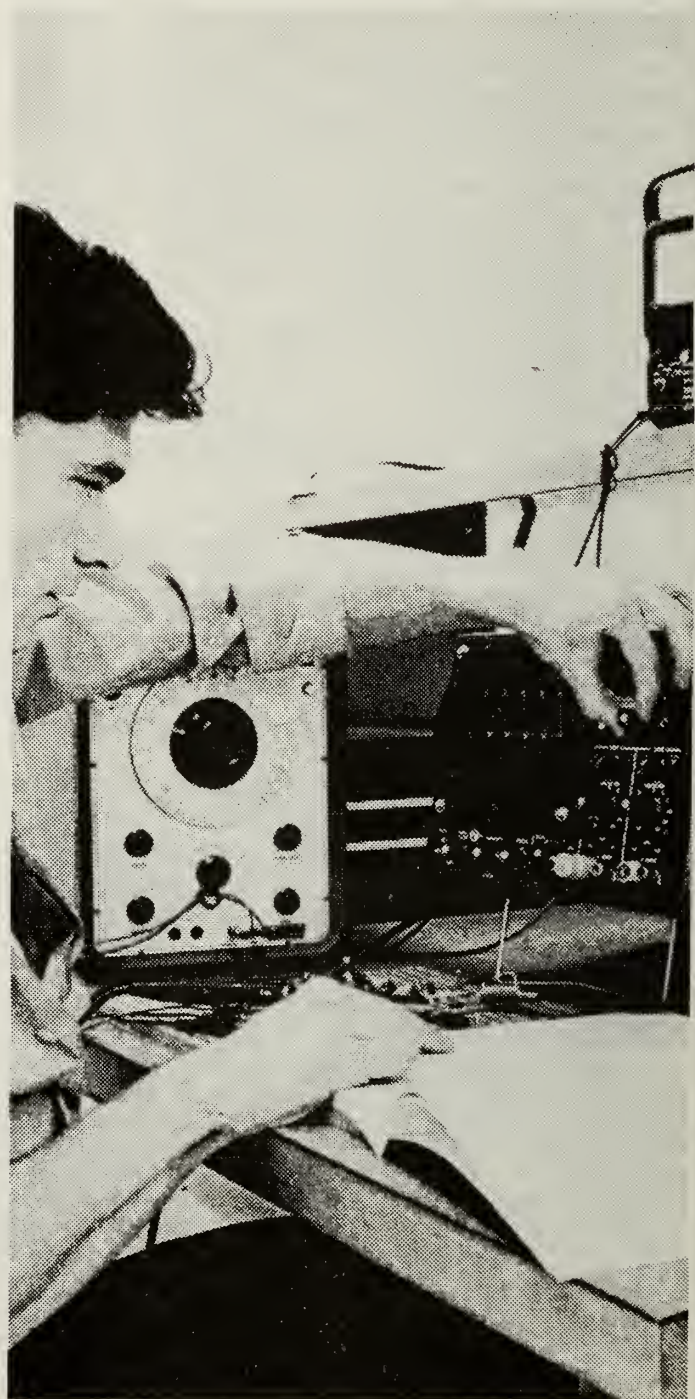
ET 320-COMMUNICATIONS SYSTEMS 1

3 credits

The aim of this course is to present information about the circuit processes and basic theories essential to the understanding of communications systems. Topics included in the course are noise limitations, filter theory, amplitude modulation, frequency modulation, single-side band modulation, radio receivers and pulse modulation schemes. How these systems are used to transmit different information forms such as audio or video or data signals is studied in detail.

PREREQUISITES: Senior Standing.

Offered Fall Semester



ELECTRONIC TECHNOLOGY

The Electronic Technology program is organized to present learning activities that will qualify the graduate to perform job functions in areas such as communications, control systems, computers, circuit design and systems testing. Training for a wide range of jobs is provided by a two-year technical program of specialized, intensive instruction designed to fit individuals for useful employment as highly skilled technicians in the electronics field.

Minimum Grade Requirement: Students in Electronics Technology and Electronic Benchwork Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Electronic Technology will be awarded.

SEMESTER 1	Class	Lab	Credits
LE 100 English Composition 1	3		3
MM 101 Mathematics *	1		1
MM 102 Mathematics *	1		1
MM 103 Mathematics *	1		1
ET 115 Electronics Lab 1		4	2
ET 110 Basic Electronics 1	3		3
ET 120 Electronics Graphic	1	2	2
NP 109 Human Rel. at Work 3	3		3
MM 231 Engineering Computation 1			1
	<u>14</u>	<u>6</u>	<u>17</u>

SEMESTER 2	Class	Lab	Credits
LE 200 English Composition 2	3		3
MM 105 Mathematics *	1		1
MM 106 Mathematics *	1		1
MM 107 Mathematics *	1		1
ET 215 Electronics Lab 2		4	2
ET 210 Basic Electronics 2	3		3
ET 220 Semicond. Circuits 1	3		3
MM 109 Mathematics *	1		1
ED 230 Intro.to Programming	1		1
	<u>14</u>	<u>4</u>	<u>15</u>

SEMESTER 3	Class	Lab	Credits
LE 203 Tech Report Writing	3		3
ET 310 Semicond. Circuits 2	3		3
ET 320 Comm. Systems 1	3		3
ET 330 Fund of Pulse & Dig. Cir 3	3		3
ET 350 Electronics Lab 3		4	2
ET 340 Comp Conc. & Logic Cir. 3	3		3
	<u>15</u>	<u>4</u>	<u>17</u>

SEMESTER 4	Class	Lab	Credits
MP 119 Physics	3	3	4
ET 420 Comm. Systems 2	3		3
ET 450 Electronics Lab 4		4	2
ET 430 Fund of Dig Comp Syst.	3		3
ET 440 Integrated Electronics	3		3
ED 420 Microprocessor Theory	2	1	3
	<u>15</u>	<u>7</u>	<u>18</u>

* All Math courses from MM101-MM109 must be completed & passed by start of Semester 3.

ET 110-BASIC ELECTRONICS 1 3 credits
This course is an introduction to the fundamental concepts of electronics. Coverage includes concepts of electricity, series & parallel circuits, network theorems & laws, and metering principles. The purpose of this course is to present the concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

ET 115-ELECTRONICS LAB 1

2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the Electronics Industry.

Offered Fall Semester

ET 120-GRAPHICS FOR ELECTRONIC TECHNOLOGY

2 credits

This course emphasizes drafting form, geometric construction, orthographic projection, dimensioning and views. The latter portion includes electronic symbols, circuit diagrams, wiring schematics and chassis layouts.

Offered Spring Semester

ET 210-BASIC ELECTRONICS 2

3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concept of alternating currents are introduced using phasor analysis. Some topics include capacitive and inductive resistance, transients, time constraints, power & power factor, the j-operator, resonant circuits, circuit Q & bandwidth, filters and switching circuits.

PREREQUISITES: ET215 and MM101-MM103

Offered Spring Semester

ET 215-ELECTRONICS LAB 2

2 credits

A continuation of Electronics Lab 1, the emphasis in this course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITE: ET115 with a "C minus" or better.

Offered Spring Semester

ET 220-SEMICONDUCTOR CIRCUITS 1

3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered include semiconductor physics, the pn junction diode, tunnel & zener diodes, and bipolar transistors. The IV characteristics of these various devices are studied & analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit and configurations is undertaken. PREREQUISITES ET110.

Corequisites: ET215 and MM 101.

Offered Spring Semester

ET 310-SEMICONDUCTOR CIRCUITS 2

3 credits

This course is a continuation of Semiconductor Circuits 1. The emphasis is now on the use of semiconductor devices as useful active circuit elements. Topics include amplifiers, cascaded stages, frequency and gain limitations, feedback principles, temperature effects and h-

2

Sec 2

parameters. Considered, also are field-effect transistors and other special semiconductor devices. **PREREQUISITES:** Senior Standing and ET220. Offered Fall Semester

ET 320-COMMUNICATIONS SYSTEMS 1 3 credits
The aim of this course is to present information about the circuit processes and basic theories essential to the understanding of communications systems. Topics included in the course are noise limitations, filter theory, amplitude modulation, frequency modulation, single-sideband modulation, radio receivers and pulse modulation schemes. How these systems are used to transmit different information forms such as audio or video or data signals is studied in detail. **PREREQUISITES:** Senior Standing. Offered Fall Semester

ET 330-PULSE & DIGITAL CIRCUITS 3 credits
The fundamentals applying to nonsinusoidal pulse, timing and switching circuits are presented. The theory is demonstrated by actual measurement & observation and the circuits are analyzed mathematically in detail. Some of the topics covered include the application of circuit theorems, waveform analysis, integration and differentiation circuits, semiconductors as switches, multivibrators, sawtooth generators and gating & delay circuits. **PREREQUISITES:** Senior Standing. Offered Fall Semester

ET 340-COMPUTER CONCEPTS & LOGIC CIRCUITS 3 credits
This course is an introduction to the concepts of computer operation. Coverage includes computer programming, computer mathematics, Boolean algebra and logic circuitry. The aim of the course is to present the necessary information essential to the understanding of digital computers & numeric control systems. **PREREQUISITE:** Senior Standing. Offered Fall Semester

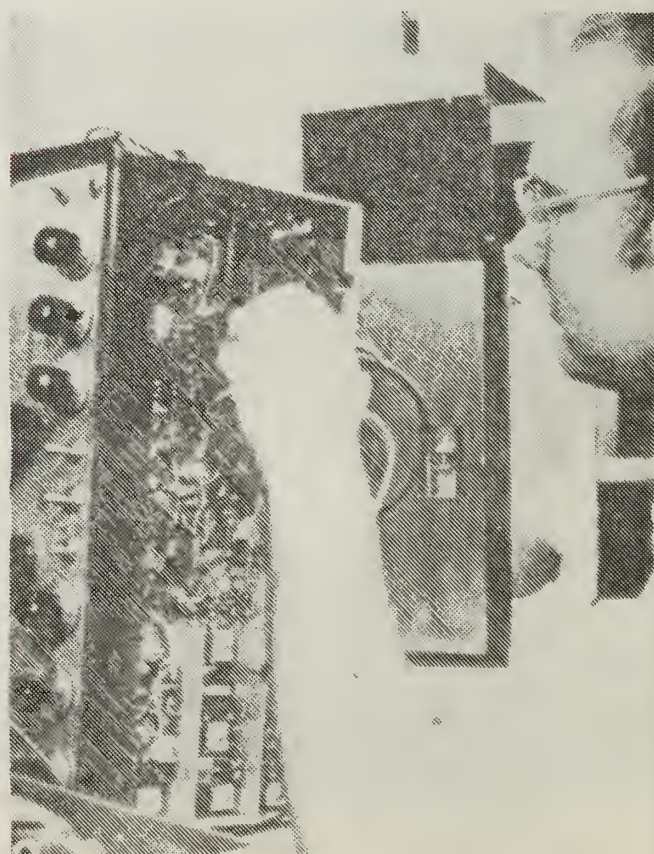
E 350-ELECTRONICS LAB 3 2 credits
This course is a continuation of the laboratory experience for students involved in the Electronics Technology curriculum. However, now the emphasis is on material covered in the senior year. The theory learned in the course work is tested in the laboratory by observations of circuits & systems pertinent to those courses. Besides the reinforcement of concepts & ideas germane to the electronics curriculum, the student's proficiency with electronic equipment & test devices is improved and familiarity with practical electronics applications enhanced. **PREREQUISITES:** ET215 with a "C minus" or better and Senior Standing. Offered Fall Semester

ET 420-COMMUNICATIONS SYSTEMS 2 3 credits
A continuation of Communications Systems 1. The aim of this course is to present the theory behind the operation of more sophisticated electronic communications systems. Topics included in this course are stereo FM and SCA systems, both monochromatic and color television, transmission lines, antennas and microwave systems. The operation and theory of microwave system is covered in detail with emphasis given to X-band waveguide devices and components. **PREREQUISITE:** Senior Standing and ET320. Offered Spring Semester

ET 430-DIGITAL COMPUTER SYSTEMS 3 credits
This course is an introduction to the operation of digital computer systems. Coverage includes computer arithmetic, logic unit operation, the operation & organization of computer memory, the operation of input-output devices, computer timing and computer control. The aim of the course is to present the information essential to the understanding of the operation of digital computers and how they interface with the world we live in so as to be useful for business, scientific and industrial applications. **PREREQUISITE:** ET340 and Senior Standing. Offered-Spring Semester

ET 440-INTEGRATED ELECTRONICS 3 credits
The aim of this course is to present information relative to the theory behind the operation of the "fundamental building blocks" of both analog and digital electronic systems. Topics included in the course are a review of bipolar and field-effect transistor theory, amplifiers, integrated circuit theory, crystal and feedback oscillators and voltage regulators. This course brings together the theory of semiconductor devices and their applications as useful electronic systems elements. **PREREQUISITES:** Senior Standing Offered Spring Semester

ET 450-ELECTRONICS LAB 4 2 credits
This course is a continuation of Electronics Lab 3. The course is now concerned with the theory studied in the fourth semester of the electronics curriculum. Again, theoretical concepts are reinforced and practical ability enhanced. **PREREQUISITES:** ET350 with a "C minus" or better and Senior Standing. Offered Spring Semester



ENVIRONMENTAL TECHNOLOGY

The Department of Environmental Control Technology offers air and water quality technology combined with wastewater treatment technology. The program is oriented toward environmental engineering with the objective of training para-professionals who can assist the engineer in detecting and measuring pollution and installing control facilities, or who can operate purification facilities. The graduates will find employment in governmental agencies, industrial facilities, engineering firms, municipal engineering offices, waste treatment plants and related facilities. The course of study is specifically designed for those students who are interested in the aspects of pollution control. It is definitely career-oriented and full credit generally will not be transferable to a four-year college. Students desiring to enter the program must have had one year of chemistry plus one year of algebra or its equivalent. Those who do not have this background may enroll but they must expect to attend one additional year or two summer sessions to make up their deficiencies. The students will be trained in both the theory and its application and will receive hands-on instruction on many items of commercial equipment.

Minimum Grade Requirement: The minimum passing grade for any individual course in the Environmental Technology Department shall be a "D" (60). The minimum average for graduation from the department is a "C". Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Environmental Technology will be awarded.

SEMESTER 1			
	Class	Lab	Credit
LE 100 English Composition 1	3		3
MM 101-103 Mathematics	3		3
MC 101 Chemistry	3	3	4
HE 110 Environmental Studies	3		3
HE 120 Process Problems 1	3	3	4
MM 231 Engineering Computation 1	1		1
	<u>16</u>	<u>6</u>	<u>18</u>

SEMESTER 2			
LE 202 Tech Report Writing	3		3
MB 120 Envir. Microbiology	2	3	3
MC 201 Chemistry	3	3	4
HE 210 Treatment Plant Oper. 1	2	3	3
HE 220 Basic Instrumentation	3		3
	<u>13</u>	<u>9</u>	<u>16</u>

SUMMER 1			
HE 230 Practicum (Summer)			3

SEMESTER 3			
MP 119 Physics	3	3	4
NE 100 Economics	3		3
HE 310 Water Sample, Analysis and Control Process	2	3	3
HE 320 Ind. Health & Safety	3		3
HE 330 Treatment Plant Oper. 2	2	3	3
	<u>13</u>	<u>9</u>	<u>16</u>

SEMESTER 4			
NP 109 Human Rel. at Work	3		3
HE 410 Wastewater Samp & Proc.	2	3	3
HE 420 Systems Maintenance	2	3	3
HE 430 Air Sample, Analysis & Control Process	2	3	3
Elective: Social Sci.	3		3
	<u>12</u>	<u>9</u>	<u>15</u>

HE 110-ENVIRONMENTAL STUDIES 3 credits
An introduction to environmental pollution, its effect on man and other living things and the basic principles of sanitation, treatment and control. It includes a discussion of the major pollutants of air, water and land; sewage and industrial waste composition; disease transmittal, control methods and air & water quality standards.
Offered Fall Semester

HE 120-PROCESS PROBLEMS 1 4 credits
An introduction to the analytical approach to problem solution and a familiarization with various calculation aids. It will include turning work problems into equations, problem solving, exponential quantities, graphing and chemical stoichiometry.
Offered Fall Semester

HE 210-TREATMENT PLANT UNIT OPERATIONS 1 3 credits
An investigation of the physical and chemical properties utilized in the treatment of liquid wastes. It includes such topics as collection & transportation systems; hydraulic theory; flow measurement; pumping; treatment methods; solids digestion; solids processing and disposal; polishing and industrial waste treatment.
Offered Spring Semester

HE 220-BASIC INSTRUMENTATION 3 credits
A study of electrical, mechanical and pneumatic operating principles as applied to instrumentation used for the measurement and control of process variables. Instrumentation terminology is introduced and familiarity with typical types and applications of instruments is developed.
Offered Spring Semester

HE 310-WATER SAMPLE, ANALYSIS & CONTROL PROC 3 credits
A study of the processes utilized to reduce or eliminate pollution of the atmosphere. Topics such as combustion, precipitation, filtration, screening, catalysis, and absorption are investigated.
Offered Fall Semester

HE 320-INDUSTRIAL HEALTH & SAFETY 3 credits
An investigation of the procedures and attitudes required so that man may safely work in the vicinity of industrial processes and equipment. Topics include the man-machine interaction, development of mental attitudes, house-keeping and the effect of the process atmosphere on health.
Offered Fall Semester

HE 330-TREATMENT PLANT OPERATIONS 2 3 credits
An investigation of the physical and chemical processes utilized in the treatment of liquid wastes. It includes such topics as collection and transport systems; hydraulic theory; flow measurement; pumping; treatment methods; solids digestion; solids processing and disposal; polishing and industrial waste treatment.
Offered Fall Semester

HE 410-WASTEWATER SAMPLE & PROCESS 3 credits
An investigation of the chemistry of domestic and industrial liquid wastes, their effects upon wastewater treatment plants and processes and the test procedures and techniques required for treatment plant operation. It includes such topics as collection & preservation of samples,

acidity and alkalinity, color, odor, turbidity, hardness, mineral content, chlorination, dissolved oxygen (DO), biochemical oxygen demand (BOD), chemical oxygen demand (COD), greases, volatile acids, toxic metals and suspended matter.
Offered Spring Semester

HE 420-SYSTEMS OPERATION & MAINTENANCE

3 credits
A study of wastewater treatment plant equipment will emphasize diagnosis & repair & preventive maintenance programs. Topics include tanks, piping systems, valves, pumps, motors, controls, instruments, screens, filters, mixers, chlori-

nators, centrifuges and incinerators. Maintenance planning, scheduling and record keeping is emphasized.
Offered Fall Semester

HE 430-AIR SAMPLE, ANALYSIS & CONTROL PROC

3 credits
An investigation of the equipment & techniques used in atmospheric sampling and of the instruments used to analyze the samples. Topics include the behavior of gases and suspended particles, sampling methods and equipment, electrical analysis, microscopy, spectroscopy and chromatography.
Offered Spring Semester



FACILITIES MAINTENANCE ENGINEERING FOR HIGH TECHNOLOGY

This program will train students as Facilities Engineering Technicians, specializing in Mechanical Systems Maintenance. The training will provide competence in the wide variety of skills needed to perform this function. For example, upon the completion of the program, the graduate will be able to read blueprints; to recognize safety hazards and to develop accident prevention and loss control procedures; to operate and maintain power plants and to write technical reports. A special feature of this program is a practicum of five weeks (the last week of May and four weeks in June) after the second semester in which the students would be able to obtain familiarity with actual plant working conditions and expectations. Minimum Grade Requirement: Students should receive a grade of "D" or better and an overall Q.P.A. of 2.0 for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Facilities Engineering Technology will be awarded.

SEMESTER 1

	Class	Lab	Credit
HE 320 Ind. Health & Safety	3		3
EE 110 Fund of Electricity 311	3	3	4
NP 109 Human Rel. at Work	3		3
HP 120 Mech. Skill and Procedure		3	1
FA 130 Blueprint Reading		3	1
LE 100 English Composition 1	3		3
	12	9	15

SEMESTER 2

HE 220 Basic Instrumentation	3		3
MM 101 Mathematics	1		1
MM 102 Mathematics	1		1
MM 103 Mathematics	1		1
IA 130 Mach. Tool Techniques		3	1
IF 250 Basic Shop Techniques		1	1
FB 240 Elementary Welding		1	1
LE 200 English Composition 2	3		3
	9	5	12

SUMMER 1

IF 270 Summer Practicum			3
-------------------------	--	--	---

SEMESTER 3

Elective: Social Science	3		3
LE 202 Tech Report Writing	3		3
HP 330 Power Plant Oper. 1	1	2	2
MP 119 Physics	3	3	4
HP 110 Theory of Controls	3		3
	13	5	15

SEMESTER 4

HP 430 Power Plant Oper. 2	1	2	2
JF 210 Bldg. Construction	3		3
HP 220 Prin. of Refrigeration	1	2	2
HE 420 System Operation Maint.	2	3	3
NE 100 Economics	3		3
HP 220 Combustion Control Cir.	3		3
	13	7	16

EE 110-FUND. OF ELECTRICITY 311

4 credits
A course dealing with the basic theories and concepts essential to a practical understanding of all phases of electricity and electronics. It treats fully the nature of electricity and magnetism, including an exposition of the electron theory as it relates to electricity. Consideration is given to associated circuits, batteries, induced E.M.F., magnetic circuits, D.C. measuring instruments, motors & generators.
Offered Fall Semester

FA 130-MACHINE TOOL TECHNIQUES

1 credit
Covers industrial safety practices, principles of measuring using semi-precision and precision devices. The development of skills in machining techniques, cutting and hand tool common to assembly and benchwork. Familiarization & application of thread series, tolerances, clearances, limits, fits, and other mechanical specifications as applied in the interchangeability of parts in the automotive industry. Includes lectures, demonstrations and actual laboratory participation by the student.
Offered Spring Semester

HE 420-SYSTEMS OPERATION & MAINTENANCE

3 credits
A study of wastewater treatment plant equipment with emphasis on diagnosis and repair and preventive maintenance programs. Topics include tanks, piping systems, valves, pumps, motors, controls, instruments, screens, filters, mixers, chlorinators, centrifuges and incinerators. Maintenance planning, scheduling and record keeping is emphasized.
Offered Fall Semester

HP 110-THEORY OF CONTROLS

3 credits
A course designed to deal with the basic theories and concepts required by both air conditioning and heating servicemen. Topics covered include basic electricity, meters, principles of motor operation, transformers and relays, along with an introduction to control circuits. These basics are essential in order that an individual may comprehend the control circuits to which he will be exposed to in his line of work.
Offered Fall Semester

HP 115-INSTRUMENTATION

3 credits
The study of electrical, mechanical, and pneumatic generating principles as applied to instrumentation used for measurement and control of process variables. Instrumentation terminology in individual and familiarity with typical types of instruments and their application is developed.
Offered Spring Semester

HP 120-MECHANICAL SKILLS & PROC 1

4 credits
An introductory course designed to provide for the development of the necessary fundamental technical and manual skills required in the Heating and Power, Refrigeration and Air Conditioning fields. Weekly technical lectures, demonstrations, and/or blueprint reading problems are conducted to acquaint the whole class with accepted industry practices and procedures. The corresponding laboratory enables the student to achieve practical exposure to operations and assignments involving the use and care of hand tools, measuring devices, basic machine operations, turbine & piping layout and erection, threaded-soldered-welded construction, metal fabrication and electrical circuit wiring.
Offered Spring Semester

HP 240-PRINCIPLES OF REFRIGERATION

2 credits
The practice of refrigeration is based upon two well-known principles of physics. The design and operation is based on the principles of thermodynamics, a branch of physics which involves the study of heat energy, while the actual process of cooling an enclosed space draws on knowledge from a branch of physics



called psychometry. Therefore, a theoretical treatment of such concepts as temperature, total heat, density, specific gravity, pressure, energy, work and power is presented. Attention is then directed to psychometry. A thorough knowledge of the properties of air, dew-point, wet-bulb, dry-bulb, moisture, relative humidity is essential. A study is then made of the refrigerants, their properties and characteristics used in refrigeration, covering pressure-temperature relationships, boiling and freezing points and heat capacities with extensive use of tables and curves. Offered Fall Semester

HP 330-POWER PLANT OPERATION 1 2 credits
Power plant engineering is a science based on those fundamental principles which underlie chemistry and especially the branches of physics known as "Thermodynamics, Heat Transfer, Fluid Mechanics, and Mechanics." A knowledge of the properties of air, water and steam is essential to the understanding of the operation of power plant equipment, as is fuels, combustion and fuel-gas analysis. Steam tables, calorimeters, orsat testers and other testing devices are used. Boilers, boiler auxiliaries and accessories are studied and viewed in actual operation in local power plants.

Offered Fall Semester

HP 430-POWER PLANT OPERATION 2 2 credits
With the principles learned in Power Plant Operation 1, this course is designed to involve the operation, maintenance, code requirements and the efficiencies of power plants. Attention is directed to steam generator construction, safety devices, pumps, feedwater heaters, piping systems and traps. Boiler feedwater treatment has become a scientific chemical procedure to condition the boiler water preventing scale, corrosion, caustic embrittlement, priming and foaming that causes carry-over. Preparation is made for a Massachusetts State Operator's License and a N.I.U.L.P.E. **PREREQUISITE: HP 330**

Offered Spring Semester

FIRE PROTECTION AND SAFETY TECHNOLOGY

The firefighter's world is a constant challenge of civil strife, chemicals, plastics, and tactical decisions influencing lives, homes, industries, and often the entire economic stability of a community. To cope with these demands, the firefighters need professional training.

This curriculum is designed to provide professional training for students in careers as technicians in fire protection and safety agencies. Careers include opportunities in municipal, state and federal agencies, as well as insurance companies and industries. This program is designed to meet the needs of potential and in-service firefighters by providing practical and technical instruction to those who will be serving the greater Pioneer and Connecticut Valley communities. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Fire Protection and Safety Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MM 101-103	Mathematics	3		3
AE 100	E.M. T. 1	2	2	3
JF 110	Intro. to Fire Protection	3		3
JF 120	Fund. of Fire Prevention	3		3
		14	2	15

SEMESTER 2

LE 200	English Composition 2	3		3
JF 210	Building Construction	3		3
JF 220	Organ. & Mgt. of Fire Depts.	3		3
LF 122	Conversational Spanish	3		3
NS 100	Sociology 1	3		3
		15		15

SEMESTER 3

JF 310	Fire Hydraulics & Equip.	3		3
JF 320	Fire Fighting Tactics & Strategy	3		3
JF 330	Fire Protect. Systems	3		3
NP 100	General Psychology	3		3
MC 100	Chemistry	3	3	4
		15	3	16

SEMESTER 4

JF 410	Hazardous Materials	3		3
JF 420	Fire Causes & Detection	3		3
JF 430	Advanced Protect. Systems	3		3
	Elective: Social Science	3		3
MP 119	Physics	3	3	4
		15	3	16

JF 110-INTRO. TO FIRE PROTECTION

3 credits
This course introduces the philosophy and history of fire protection, history of loss of life and property by fire, review of municipal fire defenses, study of the organization and function of federal, state and private fire protection agencies, and a survey of professional fire protection career opportunities. Required for graduation. Concurrently with Fundamentals of Fire Fighting JF120.

Offered Fall Semester

JF 120-FUNDAMENTALS OF FIRE PREVENTION

3 cr.
This course is concerned with the organization and function of fire prevention organization, inspections, surveying and mapping procedures, recognition of fire hazards, engineering a

solution of the hazard, enforcement of the solution, and public relations as affected by fire prevention. Required for graduation. PREREQUISITE: Intro. to Fire Protection JF116 or Building Construction JF210.

Offered Fall Semester

JF 210-BUILDING CONSTRUCTION

3 credits
Exploration of building construction and design with emphasis focused on fire protection concerns, review of statutory and suggested guidelines, local, state, and national. Required for graduation. PREREQUISITE: Fundamentals of Fire Prevention JF120.

Offered Spring Semester

JF 220-ORGANIZATION & MANAGEMENT OF FIRE DEPARTMENTS

3 credits
An exploration of organization principles with emphasis on fire department organization; a study of the history, types, methods and principles of fire department organization, both formal and informal, line and staff. Emphasis placed on supervisory responsibilities and functions. Required for graduation. PREREQUISITE: Intro. to Fire Protection JF420.

Offered Spring Semester

JF 310-FIRE HYDRAULICS & EQUIPMENT

3 credits
Course in incompressible fluids including: fluid properties, principles of fluid status, fluid flow system principles, pipe friction and heat loss, flow measurements, pumps, and other hydraulic devices and machinery. Applications are related to fire protection systems such as sprinklers, standpipes, hoses, nozzles, pumps, and water supply systems. Demonstrations will illustrate and supplement the principles developed in the class. Required for graduation. PREREQUISITE: College Algebra MM101-103.

Offered Fall Semester

JF 320-FIRE FIGHTING TACTICS & STRATEGY

3 cr.
This course reviews fire chemistry, equipment and manpower, basic fire-fighting tactics and strategy, methods of attack, preplanning fire problems. Fire situations are presented for analysis and study, consistent with accepted fire-fighting practices. Required for graduation. PREREQUISITE: Fire Hydraulics & Equipment JF310.

Offered Fall Semester

JF 330-FIRE PROTECTION SYSTEMS

3 credits
The detection and extinguishing systems of both automatic and manual types are studied, including sprinkler and standpipe systems, inert gases, foam and dry chemicals, temperature and smoke responsive devices, and alarm and signaling system. Demonstration will illustrate and supplement the class work. Required for graduation. PREREQUISITE: Fund. of Fire Prevention JF120.

Offered Fall Semester

JF 410-HAZARDOUS MATERIALS

3 credits
This course includes a review of basic chemistry, storage and handling of hazardous materials, laws, standards and fire fighting practices within extreme fire hazard areas. Demonstrations will illustrate and supplement the class work. Required for graduation. PREREQUISITE: Chemistry 1 MC 100 and College Algebra MM101-103.

Offered Spring Semester

JF 420-FIRE CAUSES & DETECTION (ARSON 1) 3 cr.
This course concerns the history, development and philosophy of fire investigation and detection, including inspection techniques, gathering evidence and development of technical reports, fundamentals of arson investigation, processing of criminal evidence and criminal procedures related to various state and local statutes. **PREREQUISITE:** Fund. of Fire Protect. JF120. Required for graduation.

Offered Spring Semester



JF 430-ADVANCED PROTECTION SYSTEMS 3 credits
This course is a continuation of JF 330 and it is presented for those people interested in advanced fire control systems. Sprinkler systems will be given a great amount of attention in this course. Carbon dioxide, Dry chemicals, Foam systems, Halogen agents will also be discussed. Required for graduation. **PREREQUISITE:** Fire Protection Systems JF330.

Offered Spring Semester

JF 490-LEGAL ASPECTS OF FIRE PROTECTION 3 cr.
A study of legal rights and duties, liability concerns and responsibilities of the fire department organization while carrying out their duties. **PREREQUISITE:** Intro. to Fire Protection JF 110 or Organization & Management of Fire Departments JF 220.

JF 493-FIRE CODES AND ORDINANCES 3 credits
A study of the history and development of codes which influence the field of fire prevention. Emphasis is placed on the nature and scope of legal statutes and related codes in fire prevention and control. **PREREQUISITE:** Building Construction JF 210.

JF 494-PUBLIC, LABOR & HUMAN RELATIONS 3 cr.
This course concerns labor negotiations and relations in general and the fire service in particular stressing competitive behavior. Theories are developed in terms of labor-management relations and problem-solving processes which lend help to identify, enlarge, and act upon the common interests of the parties in municipal or governmental roles. **PREREQUISITE:** Organ. & Mgt. of Fire Depts. JF 220

JF 495-SPECIAL OCCUPANCY FIRE SYSTEMS 3 cr.
A study of the causes of fires, inspection and investigation procedures, and fire prevention. Identification & control of electrical, mechanical and radioactive hazards are stressed along with industrial safety equipment and practices. **PREREQUISITE:** Hazardous Materials JF 410.

JF 498-ARSON 2 3 credits
A continuation of Fire Causes & Detection (Arson). **PREREQUISITE:** Fire Causes & Protect. JF 420.

AE 100-EMERGENCY MEDICAL TRAINING 6 credits
This course consists of 81 hours of instruction, practical work and in-hospital observation. It is designed for the person who responds to emergency calls to provide immediate care to the critically ill and injured and transport the patient to a medical facility. It will develop his skill in determining the nature and extent of illness or injury and in establishing priorities for emergency care. It covers such topics as opening and maintaining an airway, cardiac resuscitation, controlling of hemorrhage, treatment of shock, immobilization of fractures, assisting in childbirth, management of mentally disturbed patients as well as light rescue skills and extrication from entrapment.

Offered Fall Semester

GRAPHIC ARTS TECHNOLOGY

The Graphic Arts Department offers a curriculum designed to prepare students for the many and varied careers available in the commercial printing and advertising business. The courses are devoted to functional discussions crossing most branches of the printing industry. It is the objective of the department to relate the many branches of the industry to each other and to the totality of contemporary printing. Rochester Institute of Technology, as well as other institutions offering Graphic Arts specialty courses, has indicated that it will accept credits from this program toward an advanced degree in Printing and Publishing.

Minimum Grade Requirement: Graphic Arts Technology students must achieve a minimum grade of 2.5 in Graphic Arts courses for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Graphic Arts Technology will be awarded.

SEMESTER 1		Class	Lab	Credit
LE 100	English Composition 1	3		3
NP 100	General Psychology	3		3
GA 110	Graphic Arts Proc. 1	2	3	3
GA 120	Typography & Copy Prep.	2	3	3
NE 100	Economics 1	3		3
MM 231	Engineering Computations 1	1		1
		<u>14</u>	<u>6</u>	<u>16</u>

SEMESTER 2				
LE 200	English Composition 2	3		3
GA 210	Graphic Arts Proc. 2	2	3	3
GA 220	Layout & Copy Preparation 2		3	3
GA 230	Alphabet Keybd. Mastery	3		1
Elective: Social Science		3		3
		<u>13</u>	<u>6</u>	<u>13</u>

SEMESTER 3*				
GA 380	Chem. of Lithography 1	3		3
GA 310	Proc. Photography or			
GA 320	Offset Strip & Plate	2	3	3
GA 330	G.A. Coop or			
GA 340	Prod. Techniques 1		9	3
GA 350	Graphic Design or			
GA 360	Offset Presswork 1 or	2	3	3
GA 370	Printing Mgmt.	3		3
		<u>10</u>	<u>15</u>	<u>15</u>

SEMESTER 4**				
GA 410	Chem. of Lithography 2	3	3	4
GA 320	Offset Strip & Plate or			
GA 310	Proc. Photography	2	3	3
GA 330	G.A. Coop or			
GA 450	Prod. Techniques		9	3
GA 460	Graphic Des. Pub & Pack or			
GA 470	Offset Presswork 2	2	3	3
GA 480	Printing Mgmt.	3		3
		<u>10</u>	<u>18</u>	<u>16</u>

*SEMESTER 3
 Select course GA420 or GA 430.
 Select course GA340 or GA 440.
 Select 2 of 3 courses: GA350, GA 370 or GA360

**SEMESTER 4
 Select course GA420 or GA430.
 Select course GA450 or GA440.
 Select 2 of 3 courses: GA460, GA 470 or GA 480

A requirement for this degree is demonstrated proficiency in mathematics at the MM-091, MM-093 level.



GA 110—GRAPHIC ARTS PROCESSES 1 3 credits
 Graphic Arts Processes I & II is a two-course technical introduction to the offset printing process. Processes I consists of basic photographic reproduction processes, especially line and halftone photography. Class discussions introduce the student to technical and scientific information necessary to the understanding of the process. Laboratory experiences will acquaint the students with darkroom equipment and process cameras and the basic skills necessary for success as a cameraperson in the industry.
Offered Fall Semester

GA 120—TYPOGRAPHY & COPY PREPARATION 3 credits
 Theory & practice emphasizing craftsmanship and appreciation of typographic principles. Laboratory work includes creative projects in typographic composition for effectiveness and aesthetic value. PREREQUISITE: GA220.
Offered Fall Semester

GA 210—GRAPHIC ARTS PROCESSES 2 3 credits
 A continuation of Processes I, Processes II consists of basic stripping, platemaking, proofing and post press operations. Laboratory experiences are designed to acquaint the student with practical applications of the lecture material including a modular project booklet for the stripping projects. (NOTE: GA110 is not a prerequisite for GA210).
Offered Spring Semester

GA 220—LAYOUT & COPY PREPARATION 3 credits
 Areas of balance, proportion and proper paste-up procedures are covered. The student also gains an understanding of the tools and materials used in layout and paste-up.
Offered Spring Semester

GA 230-ALPHABET KEYBOARD MASTERY 1 credit
This course covers correct typewriting techniques and the development of speed & accuracy. The course is primarily designed to teach keyboard skills for manuscript typewriting, thereby preparing the student for computerized and photocomposition techniques applicable in his field.
Offered Spring Semester

GA 340-PRODUCTION TECHNIQUES 1 3 credits
All process courses taught in the graphic arts technology program are based on progressively more difficult exercises which the student performs in order to reach a predetermined achievement level. Production technique courses are designed to provide the student with actual live-job production responsibilities in the areas of layout, camera & stripping, platemaking and presswork.
Offered Fall Semester

GA 350-GRAPHIC DESIGN 3 credits
A course designed to further develop the student's ability to create layouts for advertising. The student gains further knowledge in the arrangements of headlines, copy blocks, photographs, art work, logotypes, borders and other typographic devices that serve as a preview for the client and a guide for the illustrator, letter artist, engraver, typesetter and printer. The lab portion of the course will acquaint the student with the mechanical operations of the typographer, artist, photographer, process cameraman and pressman in relation to what must be specified when ordering any of their services in the production of an advertisement. PREREQUISITES: GA120 and GA220.
Offered Fall Semester

GA 360-OFFSET PRESSWORK 1 3 credits
Offset Presswork I & II is a series of courses designed to familiarize the student with the theory and operation of offset lithographic presses. Presswork I includes the elements and components of a press in technical and theoretical detail. Laboratory experiences are designed to familiarize the student with the complete set up of a small duplicator press through the use of a modular project. PREREQUISITES: GA110 and GA210.
Offered Fall Semester

GA 370-PRINTING MANAGEMENT 3 credits
This course builds a framework to aid in making correctly the many decisions which are the essence of good management of a printing plant, large or small. The principles of finance, accounting procedures, cost rate establishment and control supervision, industrial relations, estimating, pricing and planning for growth are stressed by basic theory and illustration of the application of this theory.
Offered Fall Semester

GA 380-CHEMISTRY OF LITHOGRAPHY 1 4 credits
A study of the fundamental principles of chemistry in relation to the properties, composition and structure of matter, the changes that matter undergoes and the laws governing the changes. Theories of chemical reactions, chemical bonding & molecular structure are covered in preparing the student for advanced work in the lithographic process. 3 one-hour lectures per week.
Offered Fall Semester

GA 410-CHEMISTRY OF LITHOGRAPHY 2 4 credits
Topics in chemistry relating to Graphic Arts including photography and photographic processes, colors, inks and printing. Laboratory. PREREQUISITE: GA380 Chemistry of Lithography 1.
Offered Spring Semester

GA 420-OFFSET STRIPPING & PLATE MAKING 3 crdts
This course is centered on the art of assembling photographic films into the exact arrangement that will appear on the printing plates, maintaining at times accuracy of 3/1000 of an inch. This course includes detailed information & techniques utilized in both black and white & color stripping. In addition to the stripping operations, the student in this course will become involved in the producing of various types of offset plates and several methods of photocomposition, including preparation of various types of layouts and operations of photocomposing machines. PREREQUISITES: GA110, GA120.
Offered Spring Semester

GA 430-PROCESS PHOTOGRAPHY 3 credits
A lecture and laboratory course presenting the latest technical information & techniques in halftone photography consisting of conventional halftone, duotone and various other special & creative effects. The course is further designed to impress upon the student cameraman the interrelationships of his own field and that of the stripper, platemaker and press operating personnel. PREREQUISITES: GA110 and GA210.
Offered Spring Semester

GA 450-PRODUCTION TECHNIQUES 2 3 credits
A continuation of GA340. PREREQUISITE: GA340.
Offered Spring Semester

GA 460-GRAPHIC DESIGN/PUB AND PACK 3 credits
The objective of this course is to demonstrate what typography is and particularly what it is to the modern graphic designer. The student is made aware of the many influences that have shaped modern typography, with particular emphasis on the effects of technology and contemporary art movements. Laboratory work includes creative projects in typographic composition for effectiveness and aesthetic value. PREREQUISITE: GA120

GA 470-OFFSET PRESSWORK 2 3 credits
A continuation of Offset Presswork 1. Offset Presswork II consists of discussing technical and theoretical topics such as make ready systems, press standardization, plates, blankets, and pressroom chemicals. The lecture series ends with a discussion of web presses. Laboratory experiences are designed to acquaint the student with high quality presswork techniques including the printing of process color utilizing full size offset presses. PREREQUISITES: GA110, GA210, GA360.

GA 480-PRINTING PRODUCTION MANAGEMENT 3 crdts
A continuation of Printing Management. The principles of production control, planning, purchasing, inventory control and scheduling, are stressed by basic theory and case study application to solve basic production problems. PREREQUISITE: GA370
Offered Spring Semester

HEAT/POWER AND AIR CONDITIONING

The Heat/Power and Air Conditioning program is unique in the sense that it is one of two such programs offered on the East Coast. An up-to-date extensive laboratory facility has been created for this course, utilizing the very latest in equipment and control devices. Seniors who successfully complete all course requirements are awarded the Associate in Science Degree. In addition, they are given the opportunity to earn additional awards by taking the Certificate of Competency and the Stationary Engineers License examinations as administered by the Massachusetts Department of Public Safety. Placement opportunities are excellent and varied. The Heat/Power and Air Conditioning graduate is prepared to enter a stable, basic industry that offers career positions such as manufacturers' representatives, field service engineers, energy system detailers/designers, lab technicians, construction field estimators, sales engineers and independent businessmen. Minimum Grade Requirement: Students must achieve a "D" as the minimum passing grade in all HP series technical courses. A student must have earned a minimum Q.P.A. of 2.0 for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Heat/Power/Air Conditioning Tech. will be awarded.

SEMESTER 1	Class	Lab	Credits
LE 100 English Composition 1	3		3
MM 101-103 Mathematics	3		3
NP 109 Human Rel. at Work	3		3
HP 130 Engr. Graphic 331		3	1
HP 110 Theory of Controls	3		3
HP 120 Mech Skills & Proced.	3	1	1
	<u>12</u>	<u>6</u>	<u>14</u>

SEMESTER 2	Class	Lab	Credits
LE 200 English Composition 2	3		3
HP 210 Hydronic Layouts&Const.	3	1	1
HP 220 Combustion Control Cir.	3		3
HP 230 Mech Skills & Proc. 2	3	1	1
HP 240 Prin. of Refrigeration	3		3
LE 203 Fund. of Speech	3		3
MM 231 Eng. Computations	1	1	1
	<u>13</u>	<u>6</u>	<u>15</u>

SEMESTER 3	Class	Lab	Credits
MC 100 Chemistry 1	3	3	4
HP 310 Comm. Prog. Controls	2	4	4
HP 320 Heating Syst. Design	3		3
HP 330 Power Plant Oper. 1	2	2	3
HP 340 Fund of Air Cond.	2	2	3
	<u>12</u>	<u>11</u>	<u>17</u>

SEMESTER 4	Class	Lab	Credits
LE 202 Tech Report Writing	3		3
HP 410 Adv Heat. Syst. Design	3		3
HP 420 Ind Control Applic.	2	4	4
HP 430 Power Plant Oper. 2	2	2	3
HP 440 Air Cond. Laboratory	2	2	3
	<u>12</u>	<u>8</u>	<u>16</u>

HP 110-THEORY OF CONTROLS 3 credits
A course designed to deal with the basic theories and concepts required by both air conditioning and heating servicemen. Topics covered include basic electricity, meters, principles of motor operation, transformers and relays, along with an introduction to control circuits. These basics are essential in order that an individual may comprehend the control circuits to which he will be exposed in his line of work.

HP 120-MECHANICAL SKILLS & PROCEDURES 1 3 crs
A course that deals with the development of the

necessary fundamental technical & manual skills required in the Heat/Power, Refrigeration and Air Conditioning fields. Attention is given to current principles and practices as applied to care and use of hand tools & measuring devices; basic machine operations; tubing and piping layout and erection; threaded, soldered, and welded construction; metal fabrication; equipment service and installation; fundamental electrical circuit wiring & blueprint reading.

Offered Fall Semester

HP 130-ENGINEERING GRAPHICS 331 1 credit
A course that deals with the graphic representation of physical objects. It is designed to provide the student with fundamental knowledge of the principles of mechanical drafting and to develop necessary skills in the basic techniques of using special tools and equipment. Subjects covered include lettering, orthographic projection, dimensioning, simple scale drawings, developed surface, geometric construction and detail and assembly drawings. Three hours of laboratory.

Offered Fall Semester

HP 210-HYDRONIC LAYOUTS & CONSTRUCTION 2 cr.
A combination lecture and laboratory program to introduce the student to the basic theories and specialized skills essential for the construction of sound, practical, functional and competitive wet heat installations. Topics include specifications & data for pipe and respective components, review of metal tubing & fittings, interpretation of basic architectural specifications and working drawings, a comparison of sample applications as they relate to current principles and practices. A summary assignment obligation to allow the student to express and illustrate individual creative layout & design. One hour lecture, Three hours of laboratory.

PREREQUISITE: HP130. Offered Spring Semester

HP 220-COMBUSTION CONTROL CIRCUITS 3 credits
A combination lecture & lab course which presents the basic controls & control systems found in domestic hot water, steam and forced warm air heating systems. In addition, instruction is given in the wide variety of burners used by the industry, how the integral parts of these burners function & how to test & repair them. Internal and external schematic wiring diagrams are studied in detail. The lab allows the student to wire, safety check & fire test units, both old & new, as found in today's industry.

PREREQUISITES: HP110.

Offered Spring Semester

HP 230-MECHANICAL SKILLS & PROCEDURES 2 3 crs
An advanced course that is predominantly a laboratory program. Instruction is directed toward the student achieving competency in specialized skill areas involving procedure, technique, experiment, application, service and test. Emphasis is placed on laboratory assignments, scheduled specifically to allow for adequate work experience. The various training phases being erection and fabrication of residential thermal devices, unit assembly of hardware components, combustion equipment installation, control safeguard selection and wiring hookup, efficiency testing of units and the documentation of results.

PREREQUISITE: AP120

Offered Spring Semester

HP 240-PRINCIPLES OF REFRIGERATION 3 credits
The practice of refrigeration is based upon two well-known principles of physics. The design & operation is based on the principles of thermodynamics, a branch of physics which involves the study of heat energy, while the actual process of cooling an enclosed space draws on knowledge from a branch of physics called psychrometry. Therefore, a theoretical treatment of such concepts as temperature, total heat, density, specific gravity, pressure, energy, work and power is presented. Attention is then directed to psychrometry. A thorough knowledge of the properties of air, dew-point, wet-bulb, dry-bulb, moisture and relative humidity is essential. A study is then made of the refrigerants, their properties & characteristics used in refrigeration, covering pressure-temperature relationships, boiling and freezing points and heat conditions with extensive use of tables and curves.
Offered Spring Semester

HP 310-COMMERCIAL PROGRAMMING CONTROLS 4 cr.
A combination of Control Circuits Applications 1. Basic electronic, solid state & programming controls used in the heating industry are introduced. A number of these controls are analyzed to illustrate their operation. Industrial schematic wiring diagrams are studied and the student learns to interpret line & ladder type of diagrams. Field trips are arranged to observe control systems in operation. Laboratory experience includes installing & piping of burners, wiring & designing of controls, with emphasis on combustion testing to meet today's pollution control requirements. PREREQUISITE: HP 220.
Offered Fall Semester

HP 320-HEATING SYSTEM DESIGN 3 credits
A lecture course designed to acquaint the student with proper principles used in designing various heating systems. A thorough coverage is made of heat transfer through building materials essential in the calculations of heat losses, through both residential and commercial structures. Instruction is given in the layout and construction of heating systems. The student will develop the knowledge required to design a good, efficient heating system.
Offered Fall Semester

HP 330-POWER PLANT OPERATION 1 3 credits
Power plant engineering is a science based on those fundamental principles which underlie chemistry & especially the branches of physics known as "Thermodynamics, Heat Transfer, Fluid Mechanics and Mechanics." A knowledge of the properties of Air, Water and Steam is essential to the understanding of the operation of power plant equipment, as is Fuels, Combustion and Orsat testers and other accessories are studied and viewed in actual operation in local power plants.
Offered Fall Semester

HP 340-FUNDAMENTALS OF AIR CONDITIONING 3 credits
With the Principles of Refrigeration mastered, a detailed analysis of the refrigeration cycle is made. The "Compression" cycle with its components: Compressor, Condenser, Metering Devices, Evaporator, and the "Absorption" cycle with its components: Generator, Absorber, Evaporator, and their pumps and controls. Refri-

geration tools (gage manifolds, charging cylinders, vacuum pumps, leak detectors and others) are demonstrated and used in a laboratory atmosphere. Environmental conditioning including Temperature, Humidifying, Dehumidifying, Air Distribution, Filtering and the calculations of these requirements being determined. PREREQUISITE: HP240. Offered Fall Semester

HP 410-ADVANCED HEATING SYSTEM DESIGN 3 cr.
A continuation of Heating System Design. Further instruction is given in the layout, construction and distribution of heating systems. Calculations of domestic hot water requirements in residential and institutional buildings are covered in detail. Emphasis is placed on calculation of heat gain in addition to heat loss. Architectural and construction blueprint reading on light commercial and industrial structures is introduced. PREREQUISITE: HP320.
Offered Spring Semester

HP 420-INDUSTRIAL CONTROL APPLICATIONS 4 cr.
A continuation of the study of larger, more complex control systems required by certain states and insurance associations. Emphasis is placed on studying the latest in self-checking programming controls used with gas, oil and combination gas-oil burners. The use of factory units brings this application into focus. Complete testing and servicing are emphasized. Periodically, factory representatives are invited to lecture on the latest, up-to-date equipment in this constantly changing industry. Qualified students are eligible to take the Massachusetts examination for a Commercial Programming license. PREREQUISITE: HP310.
Offered Spring Semester

HP 430-POWER PLANT OPERATION 2 3 credits
With the principles learned in Power Plant Operation 1, this course is designed to involve the operation, maintenance, code requirements and the efficiencies of power plants. Attention is directed to steam generator construction, safety devices, pumps, feedwater heaters, piping systems and traps. Boiler feedwater treatment has become a scientific chemical procedure to condition the boiler water preventing scale, corrosion, caustic embrittlement, priming and foaming that causes carry-over. Preparation is made for a Massachusetts State Operator's license and a N.I.U.L.P.E. PREREQUISITE: HP330
Offered Spring Semester

HP 440-AIR CONDITIONING LABORATORY 3 credits
Analyzing, trouble-shooting & servicing refrigeration and air conditioning systems are emphasized in this course. Electric, pneumatic controls and protection devices: freezstats, thermostats, capacitors, low oil, high and low head pressure cut-outs and compressor overload devices are studied in detail. Cooling towers, both mechanical & natural draft with parabolic designs are featured, as is water chemistry with chill and condensor water treatment including: rust inhibitors, algae control and filtering processes. PREREQUISITE: HP340.
Offered Spring Semester

HEAT/POWER/AIR CONDITIONING- SOLAR ENERGY OPTION

Less fuel to provide the energy needs of the country has resulted in the search for alternative energy sources. Although not a new concept, the use of the sun to provide energy has become increasingly popular in the last few years. It is estimated that, within a short period of time, packaged solar systems will be in mass production. Solar energy as an alternative to today's fuel will become a reality in the not too distant future. Allied to this anticipated growth will be the need for trained technicians in the solar energy field. Successful graduates of the Solar Energy Option will be qualified to install complete water or air-based solar collector heating systems in new or existing structures. Also, graduates will be able to determine, through on-site inspection, the least expensive combination of solar collectors, thermal reservoir, insulation and back-up burners for any structure. In addition, the student will learn to evaluate the cost/effectiveness of new solar collector technologies. Various positions awaiting the Solar Energy Option graduate are: solar panel manufacturers representative; field service engineer(solar); solar energy system detailer/designer; construction field estimator; solar system sales engineer and energy consultant. Upon the successful completion of requirements for this course, as listed below, the degree of Associate in Science in Heat/Power/Air Conditioning Technology will be awarded.

SEMESTER 1

	Class	Lab	Credits
LE 100 English Composition 1	3		3
MM 101-103 Mathematics	3		3
NP 109 Human Relations at Work	3		3
HP 110 Theory of Controls	3		3
HP 120 Mech Skills & Proc. 2		3	1
HP 130 Engineering Graphics 331		3	1
	<u>12</u>	<u>6</u>	<u>14</u>

SEMESTER 2

LE 200 English Composition 2	3		3
HS 210 Intro to Alt. Energy Sys. 2			2
HP 210 Hydronic Layouts & Cons.	3		1
HP 220 Combustion Contr. Ctr. 3			3
HP 230 Mech. Skills & Proc. 2	3		1
HP 240 Princ. of Refrigeration 3			3
LE 203 Fundamentals of Speech 3			3
MM 231 Engineering Computations I			1
	<u>15</u>	<u>6</u>	<u>17</u>

SEMESTER 3

HS 310 Solar Energy 1	3		3
HP 310 Comm. Program Controls 2	4		4
HP 320 Heating System Design 3			3
HP 340 Fund. of Air Condition. 2	2		3
MC 100 Chemistry 1	3	3	4
	<u>13</u>	<u>9</u>	<u>17</u>

SEMESTER 4

LE 202 Technical Report Writing 3			3
HP 410 Adv Heat. System Design 3			3
HP 420 Ind. Control Applic. 2	4		4
HP 440 Air Conditioning Lab 2	2		3
HS 430 Solar Energy 2	2	4	4
	<u>12</u>	<u>10</u>	<u>17</u>

HS 210 - INTRO TO ALTERNATIVE ENERGY SYSTEMS

2 credits

A survey of currently practical energy conversion schemes with emphasis on solar collectors. The course begins with a review of global energy use & availability which qualifies the long-term need for conservation & utilization of re-



newable energy resources. The theory, operation operation ocean thermal differences, wind, wave, ocean current & biogas systems). The problems of energy storage & distribution will be covered for each system. Special details of solar systems will include insulation, solar angles, meteorological data, re-radiation, heat storage & thermal transfer. Offered Spring Semester

HS 310-SOLAR ENERGY 1

3 credits

A detailed course on the theory & application of various flat plate solar thermal collector systems. The efficiency, expected output, optimum configuration & longevity of specific collectors will be covered. The techniques of energy storage and the need for fossil fuel back-up heaters will be considered. Students will learn to assess a building's energy needs & to plan the lowest cost combination of conservation, solar-based heating & fossil fuel back-up. The details & relative merits of both air & water-based systems will be thoroughly covered. Offered Fall Semester

HS 430-SOLAR ENERGY 2

4 credits

A practical course in which students will learn to install complete solar collector systems & their associated controls. Special problems encountered in retrofitting existing buildings with solar equipment will be illustrated with site visits. Students will gain experience in using instrumentation to evaluate collector performance so that they can keep abreast of new developments in this rapidly growing field. Offered Spring Semester

INSTRUMENTATION TECHNOLOGY

The Instrumentation Technology program is designed to prepare students for employment as highly skilled technicians in the broad field of instrumentation.

Instrumentation refers to the instruments for sensing changes in heat or pressure, for recording information, or for controlling manufacturing processes that are vital in research, business, space technology, and many areas of industry. Because the instrumentation is so important, there is a great demand for people trained to install, calibrate, and maintain this equipment.

Graduates of this two-year program leading to an Associate in Science degree may be employed as instrumentation technicians, Engineering Associates - Instrumentation Research or Process Technicians, or Instrumentation Field Service Technicians. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Instrumentation Technology will be awarded.

SEMESTER 1

	Class	Lab	Credit
EB 120 Measuring Principles 1	2	3	3
NP 109 Human Rel. at Work	3		3
EA 130 Blueprint Reading	1	3	2
LE 100 English Composition 1	3		3
ET 110 Basic Electronics 1	3		3
MM 101 - MM 103 Mathematics	3		3
ET 115 Electronics Lab	0	4	2
	<u>15</u>	<u>10</u>	<u>19</u>

SEMESTER 2

EB 230 Measuring Principles 2	2	3	3
LE 200 English Composition 2	3		3
ET 210 Electronics 2	3		3
MM 105 - MM 107 Mathematics	3		3
ET 215 Electronics Lab 2	0	4	2
ET 220 Semiconductors 1	3		3
	<u>14</u>	<u>7</u>	<u>17</u>

SEMESTER 3

IT 310 Control Princ. 1	3	3	4
EB 320 Calibration & Standardiz.	1	3	2
MP 119 Physics	3	3	4
LE 202 Tech Report Writing	3		3
FB 420 Fluid Power	3		3
	<u>13</u>	<u>9</u>	<u>16</u>

SEMESTER 4

IT 410 Instr/Repair & Trouble Shooting	2	2	3
ET 340 Computer Conc. & Logic	3		3
EE 410 Ind Elec Mech Sys.	3		3
EB 420 Instrumentation Project		6	2
NE 100 Economics	3		3
	<u>11</u>	<u>8</u>	<u>14</u>

IT 310-CONTROL PRINCIPLES 1

4 credits

In this course, the characteristics of a controlled process static and dynamic conditions are reviewed; analogous systems of units are presented; first and second order responses are treated; block diagrams as applied to analog computers are discussed; and finally, the fundamentals of analog computers are presented. Applications to typical processes will be given.

Offered Fall Semester

IT 410-INSTRUMENT REPAIR AND TROUBLE SHOOTING

3 credits

This course provides the time and opportunity for students to work on instruments observing their design, fabrication, assembly testing and test fixtures. The student is expected to cultivate the art of recognizing a correctly operating instrument and an improperly operating unit. The training of his judgement to assess and repair or replace a defective component is crucial to his proper performance on the job.

Offered Spring Semester

EB 120-MEASURING PRINCIPLES 1

3 credits

Measuring Principles 1 is a study of the more common sensing elements and components which are mechanical (as opposed to electrical) instruments. The devices studied in this course are those used to measure temperature, flow, pressure and related phenomena. Fundamental units of measurement should be introduced. Problems involving both regular and SI units should be worked.

Study of the fundamental behavior of materials when subjected to stresses provides the basis for understanding instrumental devices which rely upon the measurement of changes in elastic materials regardless of particular design or application. Emphasis should be placed on how few basic principles are applied in a wide variety of instruments available to provide the many responses and readings required for system control. Attention should be focused on principles underlying instrument construction. The principles do not change, but the design details of instruments based on a particular principle may change with the development of new materials of the adaptation of the instrument to new applications.

Offered Fall Semester

EB 230-MEASURING PRINCIPLES 2

3 credits

Measuring Principles 2 is a study of electrical measuring devices and the physical principles governing their design and operation. The fundamentals of electrical circuits and elements are covered first, followed by a study of instruments for measuring the more common quantities. The course then moves to a consideration of more complex measurements for radiation, density, humidity, etc. As in Measuring Principles 1, emphasis is placed on physical principles of operation and construction.

PREREQUISITE: EB 120. Offered Spring Semester

EB 320-CALIBRATION & STANDARDIZATION 2

2 credits

Calibration & standardization of instruments may constitute one of the most important duties of instrumentation technicians. Consequently, they should be well acquainted with the various types of standards and their applicability to the problem at hand. This course consists of laboratory work so that technicians may become acquainted with the various procedures through actual experience. In addition, organization of the national bureau of standards, basic units of measurements SI and reporting of calibration should be reviewed. PREREQUISITES: EB 120, EB 230.

Offered Fall Semester

EB 420-INSTRUMENTATION PROJECT

2 credits

The student is to apply his developed theoretical and practical knowledge into the production of a project meeting course requirements. The student must select and develop an original project of his own choosing with complete paper and physical documentation as required by the project advisor. PREREQUISITE: Senior Standing.

Offered Fall Semester**EE 410- INDUSTRIAL ELECTROMECHANICAL SYSTEMS**

3 credits

Class and laboratory work in basic pneumatic, hydraulic and mechanical systems which make use of previously acquired understanding of electrical and electronic techniques. The application to automated equipment and systems is stressed. PREREQUISITES: EE-310, EE 320, EE-220.

Offered Spring Semester**ET 110-BASIC ELECTRONICS 1**

3 credits

This course is an introduction to the fundamental concepts of electronics. Coverage includes concepts of electricity, series and parallel circuits, network theorems, laws and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current voltage and power for various network configurations.

Offered Fall Semester**ET 115-ELECTRONICS LAB 1**

2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis is in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry.

Offered Fall Semester**ET 210-BASIC ELECTRONICS 2**

3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating current are introduced using phasor analysis. Some topics covered include capacitive and inductive reactance, time constraints, transients, power & power factor, the j-operator, resonant circuits, circuit Q and bandwidth, filters and switching circuits.

PREREQUISITE: ET 110. Offered Spring Semester

ET 215-ELECTRONICS LAB 2

2 credits

A continuation of Electronics Lab 1, the emphasis in the course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITE: ET 115 with a "C" minus or better.

Offered Spring Semester**ET 220-SEMICONDUCTOR CIRCUITS 1**

3 credits

This course is a continuation of Semiconductor Circuits 1. The emphasis is now on the use of semiconductor devices as useful active circuit elements. Topics include amplifiers, cascaded stages, frequency and gain limitations, feedback principles, temperature effects and h-parameters. Also considered are field-effect transistors and other special semiconductor devices. PREREQUISITES: ET 110.

Offered Fall Semester**ET 340-COMPUTER CONCEPTS & LOGIC CIRCUITS**

3 credits

FIRS
This course is an introduction to the concepts of computer operation. Coverage includes: computer programming, computer mathematics, boolean algebra and logic circuitry. The aim of the course is to present the necessary information essential to the understanding of digital computers and numeric control systems. PREREQUISITES: Senior Standing

Offered Spring Semester**FA 130-BLUEPRINT READING**

2 credits

Fundamental theory and practice of blueprint reading and tolerance application.

Offered Fall Semester**FB 420-FLUID POWER**

3 credits

The basic theory of both hydraulics and pneumatics is developed in relation to either driving or controlling industrial machinery. Fluid power equipment is discussed from the standpoint of application. Skill is developed in the layout and understanding of fluid power circuits. PREREQUISITE: MM 101 - MM 103.

Offered Spring Semester

LANDSCAPE/PLANT SCIENCE TECHNOLOGY

Students enrolled in this program will receive a broad base in the development and maintenance of land areas. Topics ranging from plant identification and use, tree and landscape maintenance, to landscape design and construction are included as part of the curriculum. The importance of qualified field personnel is stressed throughout the program. Students will be given an appreciation and understanding of the effects that can be created by well-planned landscape design and maintenance. Graduates may be employed by nurseries, landscape contractors, private and public parks and by business firms as grounds maintenance specialists. With the rapid development of more complex and varied materials and equipment for use in this field, there is an increasing need for properly trained personnel to fill responsible positions both in field work and in planning and management.

Minimum Grade Requirement: All Landscape Technology courses shall be completed with a grade of "D" (63% or 1.0) or above. Any course failed must be repeated before graduation and each course may be repeated only once. The student must also have achieved a 2.0 Q.P.A. and shall have remained in good academic standing as outlined below:

A) At the beginning of the second semester, the student must maintain a 1.5 Q.P.A.

B) At the beginning of the third semester, the student must maintain a 1.7 Q.P.A.

C) At the beginning of the fourth semester, the student must maintain a 1.9 Q.P.A.

A student not meeting the above academic standards will be placed on academic probation for one semester. If at the end of this period no improvement has taken place, the student will be removed from the program. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Landscape Technology will be awarded.

SEMESTER 1	Class	Lab	Credit
LE 100 English Composition 1	3		3
NP 109 Human Rel. at Work	3		3
MM 120 Contemporary Math 1	3		3
GL 110 Trees in Landscape	1	4	3
GL 120 Prin of Horticulture	2	3	3
	<u>12</u>	<u>7</u>	<u>15</u>

SEMESTER 2	Class	Lab	Credit
LE 200 English Composition 2	3		3
GL 210 Presentation Techniques		6	3
MC 100 Chemistry 1	3	3	4
GL 220 Turf Management	3	2	3
Elective: Social Sci.	3		3
	<u>11</u>	<u>11</u>	<u>16</u>

SEMESTER 3	Class	Lab	Credit
GL 310 Shrubs in the Landscape	1	4	3
GL 320 Arboriculture	2	2	3
GL 330 Landscape Design 1	1	4	3
GC 305 Surveying 721	2	3	3
GL 350 Landscape Operations	2	2	3
LE 203 Fundamentals of Speech	3		3
	<u>11</u>	<u>15</u>	<u>18</u>

SEMESTER 4	Class	Lab	Credit
GL 410 Plant Propagation	2	2	3
GL 420 Landscape Design 2	1	4	3
GL 430 Earth Forms & Struct.	2	2	3
BK 420 Small Business Mgmt.	3		3
GL 450 Entomology/Disease Cont.	2	2	3
	<u>10</u>	<u>10</u>	<u>15</u>

GL 120-PRINCIPLES OF HORTICULTURE 3 credits
A basic course in general horticulture, introducing the student to the fundamentals of soil study and use, insect and disease control and plant production techniques. The lectures cover the theoretical aspects of horticulture and the laboratories are used for field trips and practical work. Offered Fall Semester

GL 210-PRESENTATION TECHNIQUES 3 credits
A course in mechanical drafting, stressing the media and techniques commonly used in the preparation of landscape plans. The use of instruments, lettering and line techniques is covered first, followed by the development of isometric and perspective drawings. Working in 3-dimensions is stressed, so that the student may best visualize spatial relationships in future landscape design courses. Three two-hour labs. Offered Spring Semester

GL 220-TURF MANAGEMENT 3 credits
The study and identification of turf grasses as used in the New England area. Much emphasis is placed upon the best use of the types involved. Topics in the lectures include soil and fertilization requirements, drainage and irrigation, best turf types, grass and seed identification, maintenance and renovation, and disease and insect control. The laboratories are involved in soil testing, turf growing, maintenance techniques and field trips. Two hour lecture, one two-hour lab. Offered Spring Semester

GL 320-ARBORICULTURE 3 credits
A course dealing with the basic aspects of arboriculture. The lectures are concerned with tree growth and maintenance and the laboratories are used to instruct in tree climbing, pruning, and repair and feeding techniques. Two hour lecture, one two-hour laboratory. Offered Fall Semester

GL 330-LANDSCAPE DESIGN 1 3 credits
A course in residential landscape design stressing basic design techniques and elements. Topics covered in lecture are line, shape, form, texture, pattern, color, the processes of design, the development of outdoor spaces and design presentation. Design problems in lab deal with entry ways, driveways, outdoor living areas, play areas, private gardens and the orientation of structures on the site. PREREQUISITE: GL210. Offered Fall Semester

GL 350-LANDSCAPE OPERATIONS (PLANTING) 3 crs
This course deals with the principles involved in estimating, carrying out and maintaining landscape work. The lectures are used to introduce and discuss the work areas involved and laboratory time spent in moving and planting trees and shrubs, estimating work and the use and maintenance of machinery used in this type of work. Two hour lecture, one two-hour laboratory. Offered Fall Semester

GL 410-PLANT PROPOGATION 3 credits
A course dealing with the procedures used in propagating and growing plant materials. Lectures deal with the theoretical aspects of growing and the laboratories are devoted to greenhouse and field work. Several field trips



"The forest is a peculiar organization of nature that makes no demands for its sustenance and extends protection to all beings, offering shade even to the axeman who destroys it."

Lord Buddha

are taken to commercial nursery operations in the area. Two hour lecture, one two-hour lab.
Offered Spring Semester

GL 420-LANDSCAPE DESIGN 2 3 credits
A continuation of Landscape Design 1 stressing presentation and analysis. The areas dealt with are urban shopping and business spaces, small office building, schools and playgrounds, and parking areas.
PREREQUISITE: GL330.
Offered Spring Semester

GL 430-EARTH FORMS & STRUCTURES 3 credits
A study of the equipment, materials and methods used in constructing landscape features such as walls, walks, drives, fences and terraces. Considerable field work is involved, in which the students lay out and construct features as mentioned above. Two hour lecture, one two-hour laboratory. **PREREQUISITE:** GC305 Surveying 721.
Offered Spring Semester

GC 305 SURVEYING 721 3 credits
A course teaching the basic surveying operations used in landscape work. The use of simple instruments such as tapes and hand levels is covered first, followed by study of transits and construction levels. Mapping and contour studies are carried out and the use of surveying in typical landscape operation is stressed.
Offered Fall Semester

MB 109-ENTOMOLOGY/DISEASE CONTROL 3 credits
An introduction to the study of insects and diseases affecting ornamental plants. Both identification and eradication of common plant pests will be discussed. Cultural & biological means of control, rather than the use of chemicals will be stressed. Offered Fall Semester

MB 209-TREES IN THE LANDSCAPE 3 credits
A course dealing in tree identification & use, as related to landscape work. Important types, both native and introduced, are discussed. Limited to trees generally hardy in the New England area. Representative types are discussed during laboratory sessions. Lectures deal with general topics concerning tree use. Field trips, both on and off campus, are used to view the trees discussed. One hour lecture, two two-hour labs. Offered Spring Semester

MB 309-SHRUBS IN THE LANDSCAPE 3 credits
A continuation of Botany 2, covering the identification and use of the commonly used native and introduced shrubs and vines in this area. Emphasis is placed upon the best use of the types involved. Lectures are concerned with utilization of plant features such as flowers and fruits and with effects of the environment on the plants discussed. Laboratories are used for the discussion of specific plants. One hour lecture, Two two-hour labs.
Offered Fall Semester

LASER ELECTRO-OPTICS TECHNOLOGY

Laser Electro-Optics Technology is one of the more rapidly growing technical fields in America today. The trained technician can expect favorable job opportunities, promotion potential and rapid advancement. STCC's program is designed to expose the student to four major areas: Laser Systems, Electronics, Optics and Electro-Optics. The student will learn about the laser both as an instrument and as an integral part of a system designed for industrial, medical and scientific application. The electronics used in generating and controlling the laser will be taught. The use of the laser in electronics production, testing, maintenance research and development, is part of the curriculum. In the field of optics, the student will acquire a good working knowledge of light, geometrical and physical optics, optical components and optical systems. Finally, the student will devote a large portion of his time to incorporating optical and laser skills and knowledge into developing Electro-Optical Techniques and Systems. Minimum Grade Requirement: students must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of requirements for this program, as listed below, the Associate in Science Degree in Laser Electro-Optics Technology will be awarded.

SEMESTER 1		Class	Lab	Credit
LE 100	English Composition I	3		3
MM 101	Mathematics **	1		1
MM 102	Mathematics **	1		1
MM 103	Mathematics **	1		1
NP 109	Human Relations at Work	3		3
ET 110	Basic Electronics 1	3		3
ET 115	Electronics Lab I		4	2
ET 120	Graphics for Elect Tech.	1	2	2
MM 231	Engineering Computations	1		1
		<u>14</u>	<u>6</u>	<u>17</u>
SEMESTER 2				
LE 200	Comp 2 Intro To Lit	3		3
MM 105	Mathematics **	1		1
MM 106	Mathematics **	1		1
MM 107	Mathematics **	1		1
MP 119	Physics	3	3	4
ET 210	Basic Electronics 2	3		3
ET 220	Semiconductor Circuits 1	3		3
ET 215	Electronics Lab 2	0	4	2
		<u>15</u>	<u>7</u>	<u>18</u>
SEMESTER 3				
LE 202	Technical Report Writing	3		3
ET 340	Computer Concepts	3		3
ET 310	Semiconductor Circuits 2	3		3
EL 320	Introduction to Lasers	3	3	4
EL 330	Geometrical Optics	3	3	4
		<u>15</u>	<u>6</u>	<u>17</u>
SEMESTER 4				
ET 440	Integrated Electronics	3		3
EL 430	Laser Elec-Optic. Comp.	3		3
EL 420	Wave Optics	3	3	4
EL 410	Laser Projects	3	3	4
		<u>12</u>	<u>6</u>	<u>14</u>

** Note: All Math courses from MM 101 through MM 107 must be completed and passed by start of Semester Three (3).

EL 320-INTRODUCTION TO LASERS 4 credits
This course is made up of three one hour lecture sessions and a three hour laboratory session. The course begins with an introduction to light, the atom, emission processes, and stimulated emission of radiation. Next, laser output characteristics and modification, materials, components and industrial laser types are discussed in detail. Finally, a description of major industrial laser applications is given. Safety and laboratory procedures are also covered. The lab section will loosely follow the lectures and some projects are constructed.

Offered Fall Semester

EL 330-GEOMETRICAL OPTICS 4 credits
This course is the first of a two semester sequence covering basic optical theory and components. Each course consists of three hour lecture sessions and a three hour lab. Geometrical optics deals with the rectilinear propagation of light and the elementary treatment of image formation. Topics discussed are refraction, reflection, lenses, mirrors, prisms, fiber optics, ray tracing, aberrations, optical system design, and optical instruments. The laboratory section parallels the lectures and familiarizes the student with optical laboratory components and procedures.

Offered Fall Semester

EL 410-LASER PROJECTS 4 credits
Students working in groups will construct one of the projects listed below under the guidance of the instructor. Each student is required to maintain a laboratory notebook on specific work performed. The notebook will be evaluated weekly by the instructor. Also lectures on topics such as electronic layout and assembly and error and statistical evaluation of data help to round out the student's knowledge of laboratory procedures. Projects include Computer Assisted Spectroradiometer, CO2 Laser, Nd:YAG laser, Optical Communications, Holography, Vacuum Evaporation Techniques, and others.

Offered Spring Semester

EL 420-WAVE OPTICS 4 credits
Three major topics are studied in this course: wave optics, properties of light and matter, and the optics of transformations. The majority of the course is dedicated to wave optics and the study of diffraction and interference. In dealing with the properties of light and matter, polarization and optical boundaries are discussed. The optics of transformations deals with Fourier transform spectroscopy, transfer functions, optical data processing, and holography. Laboratory exercises will closely parallel classroom discussions and should help bridge the gap between theory and practical use of the concepts expressed.

Offered Spring Semester

EL 430-LASER ELECTRO-OPTICS COMPONENTS 3 cr.
This is a three hour lecture course which covers both components and systems used in optical, laser, and electro-optical technology. The course begins with a study of optical breadboards and component supports. Next vacuum systems, so often used in modern technology, are considered. Optical communication, a rapidly expanding field in itself, is covered by a series of lectures from the instructor's notes. A review of electro-optic devices used for beam manipulation and pulse generation is included. Also in this section is a detailed look at the progress of laser fusion experiments being conducted in this country. The course follows with a discussion of photographic techniques and equipment. Finally a look at quantum optics particularly spectroscopic analysis and equipment and electron microscopy.
Offered Spring Semester



MACHINE DESIGN TECHNOLOGY

This program prepares the graduate as an Engineering Aide or Technician in the fields of mechanical, industrial and manufacturing engineering. The program develops the necessary background in Mathematics, Engineering Graphics, Physics, Chemistry, Strength of Materials, Fluid Power and Design Principles. To qualify in the fields listed above, graduates are employed as detail draftsmen, tool and machine designers, laboratory assistants in research and development, sales engineers and field representatives. In the design laboratory, the student is given the opportunity to use his initiative and creative ability in designing machines and tool complexes of his own. Since a background in high school Algebra, Physics, Mechanical Drawing and Chemistry is required in the first semester, these courses must be prerequisites.

Minimum Grade Requirement:

For all "FD" series technical courses, a grade of "D" (1.3) or better will be required. A 2.0 Q.P.A. will be accepted for graduation. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Machine Design Technology will be awarded.

SEMESTER 1	Class	Lab	Credits
LE 100 English Composition 1	3		3
MM 101-103 Mathematics	3		3
NP 109 Human Relations at Work	3		3
FD 110 Machine Design 1	3	3	4
FA 120 Production Processes	3		3
	<u>15</u>	<u>3</u>	<u>16</u>

SEMESTER 2	Class	Lab	Credits
LE 202 Technical Report Writing	3		3
FD 210 Machine Design 2	3	3	4
FB 220 Mechanism	3		3
MM 140 Statistics & Qual. Cont.	4		4
	<u>13</u>	<u>6</u>	<u>14</u>

SEMESTER 3	Class	Lab	Credits
BD 306 Fortran for Technologies	3	3	3
FA 320 Strength of Materials	4		4
FA 330 Industrial Materials	3		3
FD 310 Machine Design 3	3	3	4
MP 119 Physics 1	3	3	4
	<u>16</u>	<u>9</u>	<u>19</u>

SEMESTER 4	Class	Lab	Credits
FB 420 Fluid Power	3	2	4
FD 410 Machine Design 4	3	3	4
FB 430 Engineering Economy	3		3
FB 440 Machine Shop Estimating	3		3
FD 450 Project Design Lab		3	2
	<u>12</u>	<u>8</u>	<u>16</u>

FD 110-MACHINE DESIGN 1 4 credits
Principles detailing parts, orthographic projection line definitions are reviewed. Areas pertaining to interchangeable manufacturing covering limits, fits tolerance analysis and surface finishes are covered in detail. Simple part drawings are made along with callout of any specific note requirements for manufacture.
PREREQUISITE: High School Algebra.

Offered Fall Semester

FD 210-MACHINE DESIGN 2 4 credits
More complex components are detailed and studied, along with sub-assembly work, bills of material and other pertinent information in regard to preparation of design of a complete machine.
PREREQUISITE: FD110.

Offered Spring Semester

FD 310-MACHINE DESIGN 3 4 credits
Machine Design principles are studied and methods of calculating the required size and shape of various machine parts are developed. Selection of proper material is given consideration, stress, strain, design stresses, keys and fasteners, threaded members, welded and riveted connections and shafts are considered. The principles of motions, velocities, acceleration of various linkages are considered.
PREREQUISITE: FD210. Offered Fall Semester

FD 410-MACHINE DESIGN 4 4 credits
The course involves the study of disk and cylindrical cams, gears, gear trains, pulleys and couplings. Interference, contact ratio, strength and dynamic loading of gears are considered and simple reverted, compound and epicyclic gear trains are worked out in detail. The student is given the opportunity to integrate knowledge acquired during the machine design program by carrying out projects in which he designs complete machines or sub-assemblies. He is required to analyze the problem, gather pertinent information, carry out the necessary mathematical operations, make working drawings and check his work. Throughout the course, he is encouraged to use his own judgement and initiative to the maximum extent possible. Students meet for two one-hour lectures and two three-hour labs per week.
PREREQUISITE: FD310. Offered Spring Semester

FB 320-STRENGTH OF MATERIALS 4 credits
A study of forces and force systems and their applications to materials. Stress and strain produced by the application of forces on beams, columns, trusses and riveted and welded sections are studied for simple tension, compression and shear. Laboratory experiments provide experience in measuring and calculating stresses produced for conditions of tension, compression, shear, bending and torsion.
Offered Fall Semester



FB 330-INDUSTRIAL MATERIALS 3 credits
An introduction to engineering materials and their properties. Emphasis is placed on the factors that determine material properties and the process by which these properties can be changed in a controlled manner. Materials covered include steel, cast iron, non-ferrous metals and alloys, plastics, rubber and some other non-metallics. Offered Fall Semester

FB 420-FLUID POWER 3 credits
The basic theory of both hydraulics and pneumatics is developed in relation to either driving or controlling industrial machinery. Fluid power equipment is discussed from the standpoint of application. Skill is developed in the layout and understanding of fluid power circuits. **PREREQUISITE:** MM101-103.

Offered Spring Semester

FB 430-ENGINEERING ECONOMY 3 credits
This course is designed to acquaint the student with the various alternates in any given situation. The student will become familiar with how to evaluate alternate engineering situations. The effects of capital, how to determine which way to go, break-even analysis, costs associated with money, equipment depreciation and tax benefits and the various types of costs associated with business. Offered Spring Semester

FB 440-MACHINE SHOP ESTIMATING 3 credits
The student will become familiar with the methods associated with costing out an item or assembly. He will also become familiar with not only fixed costs, but the varying costs on overhead, general & administrative and the designed profit level. Break-even costs will also be discussed and analyzed related to a business. Offered Spring Semester

FB 450-PROJECT DESIGN LAB 2 credits
The student will have the opportunity to put together all his knowledge obtained on various projects assigned by the instructor. He will do the design and rectify by calculations and computations in relationship to this along with the economical aspects. **PREREQUISITE:** FD310.

Offered Spring Semester

ME 204-FORTRAN FOR TECHNICIANS 3 credits
This course is designed to offer an introduction to the computer language Fortran. The content of this course will include a brief introduction to the general theory of digital computers as well as Fortran programming. Fortran will be studied as an example of a computer language. Special attention will be placed upon using Fortran as a powerful tool in solving a number of diverse problems drawn from science and engineering. **PREREQUISITES:** MM081-083.



OCCUPATIONAL SAFETY AND HEALTH TECHNOLOGY

In 1970 the United States Congress enacted the Occupational Safety and Health Act. The primary emphasis of the Act is to provide for the safety and health of the worker. The implementation of the mandate requires the following: improve existing safety and health programs; establish employer/employee responsibility; authorize the Occupational Safety and Health Administration to set safety and health standards, encourage individual states to assume responsibilities and provide for reporting procedures.

STCC's Associate in Science in Occupational Safety and Health Technology program focuses on managerial, supervision and employee training. Included is analysis of safety and health problems, recognition of potential hazards and the development of programs to carry out the firm's commitment to the safety and health of its personnel.

A strong emphasis is placed on an understanding of management methods and their relationships to safety; leadership by the employees; safety and healthful working conditions and safe work practices by employees.

Included in the four semester program are electives that must be chosen in related technology courses. It is important to seek a faculty advisor when selecting courses in order that the student follows a course of study best suited to his goals. Upon the successful completion of the requirements for this program, as listed below, the degree of Associate in Science in Occupational Safety and Health Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
JO 101	Intro. to Industrial Safety	3		3
LE 100	English Comp. 1	3		3
MM 101-103	Math(College Algebra)	3		3
MC 100	Chemistry 1	3	3	4
MP 109	Human Relations	3		3
		15	3	16

SEMESTER 2

JO 210	O.S.H.T. 1	3		3
LE 202	Technical Report Writing	3		3
NP 409	Intro. to Industrial Psychology	3		3
JF 410	Hazardous Materials	3		3
JO 220	Industrial Hygiene Familiarization 1	3	3	4
		15	3	16

SEMESTER 3

JO 310	O.S.H.T. 2	3		3
MP 119	Physics 1	3	3	4
BK 110	Prin. of Management	3		3
LE 203	Fundamentals of Speech	3		3
	Elective-Related Tech.	3		3
		15	3	16

SEMESTER 4

JO 410	Industrial Hygiene Familiarization 2	3		3
JO 420	O.S.H.T. 3	3	3	4
MM 142	Statistics	3		3
	Elective-Related Tech.	3		3
	Elective-Related Tech.	3		3
		15	3	16

JO 110-INTRO. TO INDUSTRIAL SAFETY 3 credits
An introduction to the basic principles and

techniques of occupational safety and health. Historical perspectives. A review of the important standards, codes and regulations especially as related to the Occupational Safety and Health Act; with particular emphasis on application of these codes and standards to typical work situation. Offered Fall Semester

JO 210-OCCUPATIONAL SAFETY & HEALTH 1 3 cr.
Introduction to occupational safety and health hazards associated with mechanical systems, materials handling, electrical systems, chemical processes. Illustrates controls through engineering revision, safeguarding and personal protective equipment. Emphasis placed on recognition, evaluation and control of occupational safety and health hazards. Instrumentation and sampling techniques associated with hazards in these areas will be covered. Field work will supplement theory classes.

Offered Spring Semester

JO 310-OCCUPATIONAL SAFETY & HEALTH 2 3 cr.
Emphasis on occupational safety and health hazards associated with chemical, physical and biological stresses; constraints imposed; control measures through engineering revision, isolation, substitution, ventilation stressed. Instrumentation and sampling techniques associated with hazards in these areas will be covered. Field work will supplement theory classes.

Offered Fall Semester

JO 420-OCCUPATIONAL SAFETY & HEALTH 3 3 cr.
This course introduces the O.S.H.A. student to the basic principles of management as it relates to the safety professional. Compliance costs; workman's comp. costs, fire and liability premiums, etc., will be covered in relation to overall production costs. Psychology, Sociology, Supervisors Training, Systems Safety and Product Liability will also be covered in relationship to the industrial environment. PREREQUISITE: JO 210. Offered Spring Semester



TELECOMMUNICATIONS TECHNOLOGY

This program is designed to provide students with an excellent opportunity to pursue a viable career in mass media communications. Graduates of this program will qualify for production, programming, or managerial positions in local radio and television stations and cable television stations, and in industry, education and medicine where television is utilized. Minimum Grade Requirement: the minimum grade for major courses in the Telecommunications Technology program is "C." All students must maintain a "C" plus average in order to be awarded a degree in Production Technician. Upon the successful completion of requirements for this program, as listed below, the degree of Associate in Science in Telecommunications Technology will be awarded. These credits are exclusive of the TV Honors Courses.

SEMESTER 1	Class	Lab	Credits
NP 100 Intro to Psychology	3		3
LE 100 English Composition 1	3		3
GT 110 Fund. in TV Writing	3	2	4
GT 120 Video Techniques	3		3
GT 130 Video Production	3		3
GT 140 Communc. in Today's World	3		3
	<u>18</u>	<u>2</u>	<u>19</u>

SEMESTER 2	Class	Lab	Credits
GT 210 Advanced TV Writing	3		3
NS 100 Intro to Sociology	3		3
GT 220 TV Prod. & Directing	3		3
GT 230 Speaking on TV	3		3
GT 240 Anal. of Comm & Public TV	3		3
	<u>15</u>		<u>15</u>

SEMESTER 3	Class	Lab	Credits
LE 203 Fund. of Speech	3		3
NE 100 Economics 1	3		3
GT 310 Instructional TV Tech.	3		3
GT 320 TV Journalism	3	3	4
GT 330 TV Production Practicum	0	6	3
	<u>12</u>	<u>9</u>	<u>16</u>

INTERSESSION	Class	Lab	Credits
GT 340 TV Honors- Permission Only	4		4
	<u>4</u>		<u>4</u>

SEMESTER 4	Class	Lab	Credits
GT 410 Instructional TV Prod.	3	2	4
GT 420 Adv. TV Journalism	3	5	4
GT 430 Adv. TV Production Prac.		6	3
BK 110 Prin. of Management	3		3
GT 440 Cable Television	3		3
	<u>12</u>	<u>13</u>	<u>17</u>

SUMMER SPECIAL 1	Class	Lab	Credits
GT 450 TV Honors- permission only	4		4
	<u>4</u>		<u>4</u>

GT 110-FUNDAMENTALS IN TV WRITING 4 credits
In this course students learn the fundamental principles of writing for television. Writing for drama, commercials, news, and public affairs are covered. Students are taught how to write straight, still picture and moving picture copy. The traditional video cues for directors are also taught. Students in this course do a considerable amount of writing.
Offered Spring Semester

GT 120-VIDEO TECHNIQUES 3 credits
An overview of the prime skills which video production utilizes, such as planning, writing

practicing, staging, camera handling audio pickup, video switching, mixing, lighting, and editing. Each week a new one of these elements is presented in a lecture-demonstration, followed by practice sessions in the studio. Emphasis is placed on competency in operating the equipment, and efficiency in the use of time.
Offered Fall Semester

GT 130-VIDEO PRODUCTION 3 credits
During the first part of the semester, each student plans and directs a two-camera video demonstration of how-to-do some particular task, the subject being of their choice. In the second part of the semester, five student production crews are formed. Each crew produces a mini-documentary on a topic of current news interest, using electronic field production equipment for a major portion of the program.
Offered Fall Semester

GT 140-COMMUNICATING IN TODAY'S WORLD 3 crs
In this course the wide spectrum of communications - from interpersonal to space communications satellite - is explored. The question as to how good human relations helps to develop good TV programming is examined. The course also deals with the nature of television, exposing its acknowledged attributes. Understanding the nature of TV can help a professional channel the power of television in directions that will help and not hurt viewers. It is hoped those who take the course will develop a respect for TV's potential power.
Offered Fall Semester

GT 210-ADVANCED TV WRITING 3 credits
This course is devoted to script writing for production. What is produced will be considered airable. Much of the class time is devoted to writing, based on exercises designed and offered by the instructor.
Offered Spring Semester

GT 220-TV PRODUCING AND DIRECTING 3 crs
Emphasizes the functions of producers and directors who have the financial and creative responsibilities in production. Topics covered are: staging actions, marking scripts, placing cameras, directorial decisions, uses of music and effects, video editing and dubbing, quality control, and post-production revisions. Making accurate estimates of time and costs involved in video production is practiced. Four student crews each produce and direct a dramatic program designed by the instructor.
Offered Spring Semester

GT 230-SPEAKING ON TV 3 credits
Essentially a speech course, but geared to television presentation. The student learns how to communicate to an audience while on camera. Doing commercials, the news, interviewing, hosting panels are stressed. The micro teaching method is employed to evaluate each student's performance.
Offered Spring Semester

GT 240-ANALYSIS OF COMMERCIAL & PUBLIC TV 3 cr
This course explores the anatomy of both commercial and public television, checking out their history, their societal commitments, how they function and how they subsist. Their differences and similarities are exposed. Some practical tips as to how to succeed in both sectors are offered.
Offered Spring Semester

GT 310-INSTRUCTIONAL TV TECHNIQUES 3 credits
On the premise that instructional video is produced in order to influence its audience, the psychology of the general viewer is examined by means of insights from the social sciences. Techniques found effective in TV advertising are adapted to instructional purposes, with guidance from the nationally seen C.T.W. productions. During the workshop portions of this course, practice is gained in the use of chroma-key, waveform monitoring, photographic inputs, and advanced VTR-VTR editing controllers.

Offered Fall Semester

GT 320-TV JOURNALISM 4 credits
The fundamentals in editing (assignment development and newscast production), writing and rewriting and producing are stressed, as well as learning how to capture news with film and video tape. Reporting and interviewing exercises are offered. Students produce a weekly TV newscast. Through this course students learn to compile information and collate it, unearth evidence and appraise it, budget their time and energy and develop an appreciation for accuracy. This is a workshop course.

Offered Fall Semester

GT 330-TV PRODUCTION PRACTICUM 3 credits
This course is taken at WGBY-TV or any other broadcasting, cable, industrial, medical or educational TV center. Students work studio cameras, learn to operate video tape machine, work on console board, learn to operate slide and film chain machines. The station's professional staff teaches this course.

Offered Fall Semester

GT 340,GT 450-TV HONORS(2 courses) 4 cr each
This course is open to eight students. They produce video tapes prepared by faculty. The students are divided into two groups of four each. Each group constitutes a production team. They produce two instructional TV presentations a week. During the semester each member of a

team has experience working as a producer-director, cameraperson, floor manager. The groups are responsible for dubbing, filing finished productions. The presentations are produced at STCC's TV center. To qualify for this course, a student must have an A or B+ in his major.

GT 410 INSTRUCTIONAL TV PRODUCTION 3 credits
The class divides into three groups, each of which produces a magazine-format informational video program on a different topic. Each student in a production group writes, produces, and directs their own individual short part of their group's program. Thus each student has a sub-section of an assembled program for which he/she was solely responsible. Students are urged to keep a copy of this work for resume use.

Offered Spring Semester

GT 420-ADVANCED TV JOURNALISM 2 credits
A workshop course. More advanced production techniques incorporated in a weekly TV Newscast which is aired to the student body and faculty.

Offered Spring Semester

GT 430-ADVANCED TV PRODUCTION 3 credits
Working as a production assistant on WGBY's regular TV shows, or working in a similar capacity at Channels 22 and 40, or any other broadcasting, cable, industrial, medical or educational TV center.

Offered Spring Semester

GT 440-CABLE TELEVISION 3 credits
Explores cable television distribution in terms of its potential to serve the public interest. Major topics are: technical characteristics of cable and broadcast compared, economics of paying for TV by advertising or by direct payment public-access to cable channels, the rise of specialized cable networks fed by satellites, digital signal-return via cable to central computers, and housetop satellite receivers.

Offered Spring Semester



Engineering and Science Transfer



ENGINEERING AND SCIENCE TRANSFER

Engineering & Science Transfer Program

The Engineering & Science Transfer Program at STCC is for individuals who are interested in earning a Bachelor of Science Degree in one of the Engineering disciplines (Chemical, Civil, Electrical, Environmental, Industrial or Mechanical Engineering) or in Biology, Chemistry, Mathematics, Physics, or Pre-Medicine/Pre-Dentistry/Pre-Veterinary. Each of these curricula provides a student with a fundamental background in science, mathematics and the humanities, and supplements it with technical electives from the principal engineering and science disciplines. They permit a student to earn his Associate's Degree in two years and to transfer to a four-year college or university with a junior level standing.

All students must take the SAT Examination and have the scores submitted with their application in order to be considered for admission to any option of the Engineering and Science Transfer Program.

ENGINEERING TRANSFER SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition I	3		3
MM 151	Mathematics	1		1
MM 152	Mathematics	1		1
MM 153	Mathematics	1		1
MM 154	Mathematics	1		1
MC 103	General Chemistry 21	3	3	4
ME 103	Intro to Engineer. 21	2	3	3
ME 111	Prog Engr Graph Mod I	0	3	1
		15	9	18

SEMESTER 2

LE 200	English Comp. 2	3		3
MM 251	Mathematics	1		1
MM 252	Mathematics	1		1
MM 253	Mathematics	1		1
MM 254	Mathematics	1		1
MP 132	Physics 21	4	3	5
MC 203	General Chemistry 22	3	3	4
ME 104	Intro to Engr 22 - Computer Programming	3		3
		17	6	19

SEMESTER 3

	Soc Science Elective	3		3
MM 351	Mathematics	1		1
MM 352	Mathematics	1		1
MM 353	Mathematics	1		1
MM 354	Mathematics	1		1
MP 232	Physics 22	4	3	5
	Elective	3		3
	Elective: Technical	3		3
		17	3	18

SEMESTER 4

	Soc Science Elective	3		3
MM 451	Mathematics	1		1
MM 452	Mathematics	1		1
MM 453	Mathematics	1		1
MM 454	Mathematics	1		1
	Engr Measure. & Analy.	2	3	3
	(OR) Technical Elect.	3		3
MM 421	Technical Elective	3		3
		15	3	16

Upon the successful completion of requirements

for this program, as listed above, the degree of Associate in Science in Engineering will be awarded.

By choosing the appropriate Technical & General Electives in the 3rd & 4th semesters, a student can major in Chemical, Civil, Electrical, Environmental, Industrial or Mechanical Engineering.

MINIMUM GRADE REQUIREMENTS: A full-time student in any of the curriculum options of the Engineering & Science Transfer Department must complete at least 75% of the mathematics, science, and technical (ME series) courses that are prescribed by his curriculum for the given semester in which the student is enrolled. Any student not meeting these requirements will be dropped from the program. Reinstatement will be permitted only after the student, either through another college or through STCC's Division of Continuing Education, has completed all of the required mathematics, science, and technical courses required by his curriculum at the time of his dismissal.

A student enrolled in the Pre-Engineering Option of General Studies must have a cumulative B-average in his mathematics and science courses. Failure to achieve this average will prohibit the student from transferring to any of the options in the Engineering and Science Transfer Department.

BIOLOGY OPTION

SEMESTER 1

No.	Course Title	Class	Lab	Credits
MM 151	Math (Engr Calculus 21)*1			1
MM 152	Math (Engr Calculus 21)*1			1
MM 153	Math (Engr Calculus 21)*1			1
MM 154	Math (Engr Calculus 21)*1			1
MC 103	General Chemistry 21	3	3	4
MB 106	Biology 1	3	3	4
LE 100	English Composition 1	3		3
NS 100	Intro to Sociology	3		3
		16	6	18

SEMESTER 2

MM 251	Math(Engr Calculus 22)**1			1
MM 252	Math(Engr Calculus 22)**1			1
MM 253	Math(Engr Calculus 22)**1			1
MM 254	Math(Engr Calculus 22)**1			1
MC 203	General Chemistry 22	3	3	4
MB 206	Biology 2	3	3	4
LE 200	English Composition 2	3		3
NP 100	General Psychology	3		3
		16	6	18

SEMESTER 3

MC 320	Organic Chemistry	3		4
	Elective: Biology	3	3	4
	Elective: Soc. Science	3		3
	Elective: General (2)	6		6
		15	3	17

SEMESTER 4

MC 120	Organic Chemistry	3		4
	Elective: Biology	3	3	4
	Elective: Humanities	3		3
	Electives: General (2)	6		6
		15	3	17

- * MM 150 Pre-Calculus may be taken in place of MM 151 -154.
 ** MM 222 Finite Math 2 may be taken in place of MM 251 - 254

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.

CHEMISTRY OPTION SEMESTER 1

No.	Course Title	Class	Lab	Credits
MM 151	Mathematics	1		1
MM 152	Mathematics	1		1
MM 153	Mathematics	1		1
MM 154	Mathematics	1		1
MC 103	General Chemistry 21	3	3	4
LE 100	English Composition 1	3		3
	Elective: Soc Science	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 2

MM 251	Math (Engr Calculus 22)	1		1
MM 252	Math (Engr Calculus 22)	1		1
MM 253	Math (Engr Calculus 22)	1		1
MM 254	Math (Engr Calculus 22)	1		1
MC 203	General Chemistry 22	3	3	4
MP 132	Physics 21	3	3	5
LE 100	English Composition 2	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>16</u>	<u>3</u>	<u>19</u>

SEMESTER 3

MM 351	Math (Engr Calculus 23)	1		1
MM 352	Math (Engr Calculus 23)	1		1
MM 353	Math (Engr Calculus 23)	1		1
MM 354	Math (Engr Calculus 23)	1		1
MC 320	Organic Chemistry	3		4
MP 232	Physics 22	4	3	5
	Elective: Technical	3		3
		<u>14</u>	<u>3</u>	<u>16</u>

SEMESTER 4

MM 451	Math (Engr Calculus 24)	1		1
MM 452	Math (Engr Calculus 24)	1		1
MM 453	Math (Engr Calculus 24)	1		1
MM 454	Math (Engr Calculus 24)	1		1
MC 420	Organic Chemistry	3		4
MC 350	Analytical Chemistry	2	4	4
	Elective: Technical	3		3
	Elective: Soc Science	3		3
		<u>15</u>	<u>4</u>	<u>18</u>

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.

MATHEMATICS OPTION SEMESTER 1

No.	Course Title	Class	Lab	Credits
MM 151	Math (Engr Calculus 21)	1		1
MM 152	Math (Engr Calculus 21)	1		1
MM 153	Math (Engr Calculus 21)	1		1
MM 154	Math (Engr Calculus 21)	1		1
MC 103	General Chemistry 21	3	3	4
LE 100	English Composition 1	3		3
	Elective: Soc. Science	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 2

MM 251	Math (Engr Calculus 22)	1		1
MM 252	Math (Engr Calculus 22)	1		1
MM 253	Math (Engr Calculus 22)	1		1
MM 254	Math (Engr Calculus 22)	1		1
MC 203	General Chemistry 22	3	3	4
LE 200	English Composition 2	3		3
	Elective: Soc. Science	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 3

MM 351	Math (Engr Calculus 23)	1		1
MM 352	Math (Engr Calculus 23)	1		1
MM 353	Math (Engr Calculus 23)	1		1
MM 354	Math (Engr Calculus 23)	1		1
MP 130	Physics 11 or Equiv.	3	3	4
	Elective: Humanities	3		3
	Elective: Soc. Science	3		3
MM 457	Intr. to Math Analysis	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 4

MM 451	Math (Engr Calculus 24)	1		1
MM 452	Math (Engr Calculus 24)	1		1
MM 453	Math (Engr Calculus 24)	1		1
MM 454	Math (Engr Calculus 24)	1		1
ME 104	Intr to Engr - Computer	3		3
MP 230	Physics 12 or Equiv	3	3	4
	Elective: Humanities or Soc. Science	3		3
MM 339	Linear Algebra	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.

PHYSICS OPTION SEMESTER 1

No.	Course Title	Class	Lab	Credits
MM 151	Math (Engr Calculus 21)	1		1
MM 152	Math (Engr Calculus 21)	1		1
MM 153	Math (Engr Calculus 21)	1		1
MM 154	Math (Engr Calculus 21)	1		1
MC 103	General Chemistry 21	3	3	4
LE 100	English Composition 1	3		3
	Elective: Soc. Science	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>16</u>	<u>3</u>	<u>17</u>

SEMESTER 2

No.	Course Title	Class	Lab	Credits
MM 251	Math (Engr Calculus 22)	1		1
MM 252	Math (Engr Calculus 22)	1		1
MM 253	Math (Engr Calculus 22)	1		1
MM 254	Math (Engr Calculus 22)	1		1
MC 203	General Chemistry 21	3	3	4
MP 132	Physics 21	4	3	5
LE 200	English Composition 2	3		3
	Elective: Foreign Lang/Humanities	3		3
		<u>17</u>	<u>6</u>	<u>19</u>

SEMESTER 3

MM 351	Math (Engr Calculus 23)	1		1
MM 352	Math (Engr Calculus 23)	1		1
MM 353	Math (Engr Calculus 23)	1		1
MM 354	Math (Engr Calculus 23)	1		1
MP 232	Physics 11	4	3	5
ME 320	Systems Analysis 1	4		4
	Elective: Soc. Science	3		3
	Elective: Technical	3		3

SEMESTER 4

MM 451	Math (Engr Calculus 24)	1		1
MM 452	Math (Engr Calculus 24)	1		1
MM 453	Math (Engr Calculus 24)	1		1
MM 454	Math (Engr Calculus 24)	1		1
MP 332	Physics 23	4	3	5
ME 421	Engr Measurements & Analysis	2	3	3
	Elective: Electrical	3		3
	Elective	3		3

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.

PRE-MED/PRE-DENTAL/PRE-VET OPTION**SEMESTER 1**

MM 151	Math (Engr Calculus 21)	1		1
MM 152	Math (Engr Calculus 21)	1		1
MM 153	Math (Engr Calculus 21)	1		1
MM 154	Math (Engr Calculus 21)	1		1
MC 103	General Chemistry 21	3	3	4
MB 106	Biology 1	3	3	4
LE 100	English Composition 1	3		3
NS 100	Intro to Sociology	3		3
		<u>16</u>	<u>6</u>	<u>18</u>

SEMESTER 2

MM 251	Math (Engr Calculus 22)	1		1
MM 252	Math (Engr Calculus 22)	1		1
MM 253	Math (Engr Calculus 22)	1		1
MM 254	Math (Engr Calculus 22)	1		1
MC 203	General Chemistry 22	3	3	4
MB 206	Biology 2	3	3	4
LE 200	English Composition 2	3		3
	Elective: General	3		3
		<u>16</u>	<u>6</u>	<u>18</u>

SEMESTER 3

MP 130	Physics 11	3	3	4
MC 320	Organic Chemistry	3		4
NP 100	General Psychology	3		3
	Elective: Biology	3	3	4
	Elective: General	3	3	3
		<u>15</u>	<u>6</u>	<u>18</u>

SEMESTER 4

No.	Course Title	Class	Lab	Credits
MC 420	Organic Chemistry	3		4
MP 230	Physics 12	3	3	4
	Elective: Biology	3	3	4
	Elective: Humanities	3		3
	Elective: Soc Science	3		3
		<u>15</u>	<u>9</u>	<u>18</u>

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.

ENGINEERING TRANSFER/TECHNOLOGY CORE

The Engineering Technology Core Program is a general technology program. It is for students who do not want to major in any specific technology but want a broad background. If, after spending one year in the Core Technology Program, a student becomes interested in a specific technology, it is possible for him to transfer to that technology. This program is also designed to interface with both the Engineering Transfer Program and the Pre-Engineering Option (Level 2) of the General Studies Program. A student, after spending one year in either of these programs, may transfer to the Engineering Technology Core Program with no loss of credit. A student who completes the entire Engineering Technology Core Program is awarded the Associate of Science Degree in Engineering Technology.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
LE 100	English Composition 1	3		3
MC 100	Chemistry 1	3	3	4
ET 115	Electronics Lab 1	0	4	2
ME 111	Prog. Engr. Graphics	0	3	1
ET 110	Basic Electronics 1	3		3
MM 150	Pre-Calculus 1	4		4
		<u>13</u>	<u>10</u>	<u>17</u>

SEMESTER 2

LE 200	English Composition 2	3		3
MP 119	Physics 1	3	3	4
ET 210	Basic Electronics 2	3		3
ET 215	Electronics Lab 2	0	4	2
MM 250	Pre-Calculus 2	4		4
MM 231	Engr. Calculations	1		1
		<u>14</u>	<u>7</u>	<u>17</u>

SEMESTER 3

	Elective: Soc Science	3		3
MM 151	Mathematics	1		1
MM 152	Mathematics	1		1
MM 153	Mathematics	1		1
MM 154	Mathematics	1		1
FA 340	Strength of Materials	4		4
FD 310	Design of Mach Elements 2		6	4
ME 330	Intro to Mtl. Science	3	3	3
ME 330L	Material Science Lab	0	3	1
		<u>16</u>	<u>12</u>	<u>19</u>

SEMESTER 4

	Elective: Soc Science	3	3
	Elective: Technical	3	3
MM 251	Math (Engr Calculus 22)	1	1
MM 252	Math (Engr Calculus 22)	1	1
MM 253	Math (Engr Calculus 22)	1	1
MM 254	Math (Engr Calculus 22)	1	1
ME 104	Intro to Engr 22		
	(Computer)	3	3
	Elective: Technical	3	3

Upon the successful completion of requirements for this program, as listed above, the degree of Associate in Science in Engineering and Science Transfer will be awarded.



Humanities



HUMANITIES

Minimum Grade Requirement: Liberal Arts and General Studies Transfer students must achieve a cumulative average of "C" (2.0). All students should, however, check with their own major to determine the cumulative minimum grade requirement for graduation or certification.

ART

LA 140-ART HISTORY: PREHISTORIC TO GOTHIC

3 credits

Art History I is a survey of the major visual arts of the western world: architecture, painting and sculpture of the Paleolithic Era, ancient Egypt and Mesopotamia, the Aegean, Greece and Rome, Early Christianity and Islam, the Romanesque and Gothic periods. The course is designed to help the student to understand the impulse behind the key monuments in the history of western art. Slide-lecture instruction, using Janson's History of Art. Three in-class hours weekly.

Offered Fall Semester

LA 142-PAINTING I

3 credits

Easel painting in oils or acrylics. Based on elementary understanding of the physical properties of oil and/or acrylic media, the course will emphasize individual expression within the framework of instruction in technical development, principles of pictorial composition and elements of visual representation. The main course objective is to increase students' sophistication toward aesthetic concerns and pictorial content while developing technical skills. No previous Art background is required. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 143-WOODBLOCK PRINTING I

3 credits

Basic study of materials, techniques and aesthetic considerations peculiar to relief printmaking. Students cut their designs from blocks of wood and print their own work from the wood blocks. No previous Art background needed. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 144-POTTERY I

3 credits

A basic studio course stressing creative use of clay and related materials. Students will learn hand-built and wheel-thrown potters, glazing, firing, and studio maintenance and operation skills. Studio fee required. No previous Art background needed. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 146-BASIC DESIGN

3 credits

A combination slide-lecture and studio workshop course which teaches the basic concepts in two-dimensional design, providing the foundation needed to understand and produce significant drawings, paintings, prints, and graphic expressions. Working in college, students complete projects emphasizing the plastic elements individually (line, shape, texture, etc.) and the aesthetic principles (rhythm,

balance, unity, etc.). Main objectives of the course include establishment of a sophisticated art vocabulary, an understanding of color theory, and the perception of spatial phenomena in their varied forms on two-dimensional surfaces. No previous art background is required. Five in-class hours weekly.

Offered Fall Semester

LA 147-BASIC DRAWING

3 credits

An introduction to a variety of drawing materials, techniques, and concepts. Emphasis is placed on developing each student's individual drawing strengths and making the student critically aware of the aesthetic soundness of a wide range of drawings, as each fulfills a different expressive impulse. No previous art background is required. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 148-EARLY CHILDHOOD ART EDUCATION

3 credits

This course teaches students the ways in which children of pre-school and early-elementary ages use art activities as a means of growth in problem-solving skills, motor skills, and self-expression. The main course objective is to instill an understanding of the need children have for creative experiences in learning situations structured to allow for discovery, investigation, inventiveness, and individuality. Although the main body of the course is aimed at the child who falls into the so-called "norm," attention is given to the problems of the exceptional child. Lecture/workshop classes meet three hours weekly. Fulfills specific departmental requirements only.

Offered Spring Semester

LA 149-DRAWING COMPOSITION

3 credits

Drawing will be approached as a basis of composition and training in observation. Emphasis will be placed on developing perceptual awareness and critical self-evaluation as means toward growth in one's abilities in visual self-expression. Students will be encouraged to explore areas of individual strengths and interests. PREREQUISITE: Basic Drawing LA147 or permission of the instructor. Five in-class hours weekly.

Offered Spring Semester

LA 240-ART HISTORY: RENAISSANCE AND BAROQUE

3 credits

A survey course in the major visual art expressions of western man, covering the Late Gothic Period North of the Alps, the Renaissance, Baroque and Rococo art of Italy, Germany, France, Spain, Flanders, Holland, and England. Emphasis is placed upon understanding the impulse behind man's artistic expressions: the link between works of art and the culture in which they are produced. Slide-lecture instructions, using Janson's History of Art. Art History I is not a prerequisite. Three in-class hours weekly.

Offered Fall & Spring Semester

LA 242-PAINTING II

3 credits

Painting II is a continuation of Painting I offering the student the opportunity to explore a variety of media and techniques in painting. Students must explore a variety of spatial concepts used by the painter, working the

problems presented as the course content into their own framework of artistic direction. **PREREQUISITE:** Painting I or permission of the instructor. Six in-class hours weekly.

Offered Fall & Spring Semester

LA 243-WOODBLOCK PRINTING II 3 credits
Advanced study in materials, techniques, and aesthetic considerations inherent to the designing, cutting, and printing of wood block prints. Emphasis is placed on the development of individual direction. **PREREQUISITE:** Woodblock Printing I or permission of the instructor. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 244-POTTERY II 3 credits
Advanced study in the use of clay and related materials as a creative art form. Emphasis will be placed on the development of uniqueness of individual expression and direction of each student. Studio fee required. Five in-class hours weekly.

Offered Fall & Spring Semester

LA 344-BASIC SCULPTURE 3 credits
The principal emphasis of the course is to teach the concepts of three-dimensional design, expanding the students' design vocabulary beyond the limitations of two-dimensional artistic expressions. Through various methods of exposure (such as experimentation with wood, paper, metal, plaster, etc.) the students develop solutions to problems in volume, space organization, mass, tension, etc. The course in Basic Design may be helpful, but is not a prerequisite. Five in-class hours weekly.

Offered Spring Semester

LA 441-DIRECTED STUDY IN ART I variable credit
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairpersons. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

ENGLISH

LE 100 - ENGLISH COMPOSITION 1 3 credits
The purpose of this course is to acquaint students with prose writing, particularly sentence style, paragraphing, thesis development, and essay design. Students are encouraged to develop an individual style of writing, drawn from their own experience and contemporary readings. In addition, special attention is given to the writing of a research paper of moderate length.

Offered Fall & Spring Semester

LE 200-ENGLISH COMPOSITION 2: AN INTRODUCTION TO LITERATURE 3 credits
This course involves the close reading and class discussion of fiction, poetry and plays, mostly modern, and essay assignments involving writing about literature. Emphasis is on the role of individual literary works as expressions of universal human experience.

Offered Fall & Spring Semester

LE 201-BUSINESS ENGLISH 3 credits
This course is designed to prepare business students to meet the requirements of writing all kinds of communications in the business world, emphasizing the construction of proper business letters, reports, resumes, and memoranda. Students develop an understanding of correct style, form, and tone and gain an ability to write clear and concise business communications. Offered Fall & Spring Semester

LE 202-TECHNICAL REPORT WRITING 3 credits
Instruction has been organized to emphasize methods involved in the writing process. Special emphasis has been placed on the factors which the report writer must consider and the processes he must follow in writing a report. The student will become acquainted with the techniques of analyzing a writing situation, methods of investigating the problem, organizing the report and preparing the final copy. Offered Fall & Spring Semester

LE 203-FUNDAMENTALS OF SPEECH 3 credits
This is a course designed to acquaint students with several types of basic speeches, such as extemporaneous, formal, and impromptu. Students will be expected to deliver a number of oral presentations before their classes during the semester.

Offered Fall & Spring Semester

LE 300-WORLD LITERATURE I 3 credits
Masterpieces of Western Culture from 2000 B.C. through the Renaissance are carefully examined in this course to discover the secret of their endurance and their unique value to the modern world. All works are in translation and may include, among others, selections from the "Bible," "The Iliad" of Homer, Greek Tragedy, Dante's "Inferno," Boccaccio, Rabelais, "Don Quixote," and essays by Montaigne. Close reading, class discussion and attending live theater performances are encouraged. **PREREQUISITE:** English Composition I (LE 100) with English Composition 2 (LE 200) recommended.

Offered Fall & Spring Semester

LE 301-ENGLISH LITERATURE I 3 credits
This course consists of readings in English literature from the Anglo-Saxon period to the eighteenth century, especially Beowulf, Chaucer, Shakespeare, Spenser, Milton, Pope and Swift. Primary emphasis is placed on the close and critical reading of individual works, but the works are also studied as representations of the major literary and intellectual movements in the history of English literature.

Offered Fall & Spring Semester

LE 302-AMERICAN LITERATURE I 3 credits
The growth of American literature from the Colonial period to the Civil War reflects major developments in American thought, beliefs, and values. Such writers as Bradford, Bradstreet, Edwards, Franklin, Poe, Hawthorne, Melville, Emerson and Thoreau will be the basis of our close, critical reading and discussion, representing our literary and intellectual heritage.

Offered Fall Semester

LE 304 - A SURVEY OF BLACK AMER. LITERATURE 1

3 credits

This course is designed to accomplish two aims. First, there will be a concentrated study of the writings by Black Americans from slavery times to 1940, including not only the usual fiction, essays and poetry but also folk tales, orations, and slave narratives. Secondly, this course will focus upon developing an awareness of the unique quality of the "Black Experience" as it has defined the various modes and themes that characterize Black Literature.

Offered Fall Semester**LE 305-CHILDREN'S LITERATURE**

3 credits

Children's Literature is an elective one-semester survey course. The material includes the study of the history of children's literature; juvenile novels for children 8-12; picture books, their subject matter, and illustrative techniques, for children ages 3-6; folktales and literary fairy tales; and children's poetry. The emphasis is on American publications.

Offered Fall & Spring**LE 306-IRISH LITERATURE**

3 credits

The course introduces the student to contemporary Irish Literature. It includes myths, legends and a general history of Ireland, with the focus on such writers as O'Casey, Synge, Joyce, Yeats, O'Connor, Behan, Pearse, Heaney, and Montague. Films and slides for visual enrichment are shown regularly.

Offered Spring Semester**LE 307-THE BIBLE AS LITERATURE**

3 credits

Students read the text of the Old and New Testaments of the Bible as selected, emphasizing the wide variety of literature the books contain. Folktales, sagas, hero journeys, poetry, short fiction, wisdom literature, biography, sermons and drama show an encyclopedia of writing around a central theme and tradition. Students present reports on related material.

Offered Spring Semester**LE 308-WOMEN IN LITERATURE**

3 credits

This course will focus on the roles, myths, and stereotypes of women in different historical periods, and relate these roles to the social structure, the status, and function of women in the particular social setting in which the literary works were written. The study will enable us to discover to what extent the image of women in literature reflects reality, and to what extent it is an ideal encouraged to keep women in a particular role. Works by Virginia Woolf, Kate Chopin, and Anne Sexton are included readings.

Offered Spring Semester**LE 310-312-COLLEGE THEATER WORKSHOP 1, 2, & 3**

1,2, or 3 credits

A workshop in all aspects of the theatrical production. Participation in college theatre productions is required of all students. It may be taken by qualified students, faculty, and staff as a co-curricular activity with or without credit. Field trips to theaters and conventions and speakers from all areas of the theater will be included.

Offered Fall & Spring Semester**LE 343-MODERN POETRY**

3 credits

This course examines representative works of poetry from various literary periods. The major

poets of America and Europe are studied and discussed, though modern poetry is given considerable importance. The course gives particular attention to the art of poetry as a literary genre.

LE 400-WORLD LITERATURE 2

3 credits

This course extends the work of World Lit. 1 from the seventeenth to the twentieth centuries. It may include, among others, selections of Pascal, Voltaire, "Confessions" of Rousseau, Goethe's "Faust," Flaubert, Dostoevsky, Tolstoy, Proust, tales of Kafka, and essays by Camus. Close reading, class discussion and attending live theater performances are encouraged. PREREQUISITE: English Composition 1 (LE 100) with English Composition 2 (LE 200) recommended.

Offered Fall & Spring Semester**LE 401-ENGLISH LITERATURE 2**

3 credits

This course is a continuation of English Literature 1 and consists of readings from the Romantic period to the twentieth century, especially the works of Wordsworth and Coleridge, Byron, Keats and Shelley, Tennyson and Browning, and Eliot and Joyce. The works are studied from the same perspective and with the same emphasis as in English Lit. 1.

Offered Spring Semester**LE 402-AMERICAN LITERATURE 2**

3 credits

Readings of American fiction, poetry, and drama from the Civil War to the present, ranging from Whitman, Dickinson, Twain, James, Frost, Fitzgerald, Hemingway, and Faulkner to Eliot, Stevens, Bellow, and Ellison continue the survey of American literature from the same critical perspective as American Literature 1.

Offered Spring Semester**LE 411 - DIRECTED STUDY IN LITERATURE**

Variable Credit

Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairpeople. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

LE 412-DIRECTED STUDY IN DRAMA

Var. Credit

Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairpeople. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

LE 413-DIRECTED STUDY IN SPEECH

Var. Credit

Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairpeople. Students are expected to demonstrate a willingness and ability to work on their own with minimal assistance.

LD 080-083 - ENGLISH AS A SECOND LANGUAGE 1

& 2

6 credits

This course in the acquisition or development of basic language skills provides the student with a guided program in the areas of conversational fluency, reading and listening comprehension, vocabulary development and elementary written expression. Pretests are used to evaluate individual competency and priority.

LD 086-ENGLISH AS A SECOND LANGUAGE 3 3 cr.

Course is designed to meet the needs of students who have attained proficiency in English. It will provide practice in writing paragraphs and essays, reading and speaking. The emphasis will be on writing skills. PREREQUISITE: E.S.L. 1 and 2 (LD 080; LD 083) or permission of the Instructor.

LD 090 - COMMUNICATION SKILLS 1 3 credits

This course develops study skills necessary for college work and provides a solid review of Basic English skills in grammar and composition. The work in the course covers punctuation, the parts of speech, sentence structure, and paragraph development. The course provides preparation for English Composition 1 and is suitable for students who have had difficulty with English composition, or who have had few opportunities to exercise their composition skills. This course cannot be counted for graduation credit.

Offered Fall & Spring Semester

LD 091; LD 092; LD 105 - READING

3 credits each

LD 091 - READING MODULE 1 3 credits

Reading 1 offers practice in basic reading skills. The main objective is to improve comprehension on a literal level. Vocabulary and rate work will be included to meet individual student needs as the course progresses.

LD 092 - READING MODULE 2 3 credits

Reading 2 offers practice in improving comprehension, vocabulary, and rate. It is a continuation of the fundamental work in Reading 1 and is intended to help students read textbooks and non-academic material with greater ease and understanding.

LD 105 - READING MODULE 3 3 credits

Reading 3 is an advanced reading course. Vocabulary lessons are highly specialized. Comprehension selections include questions on the literal, interpretive and evaluative levels, and rate work demands that students demonstrate an increase in speed while maintaining high comprehension scores.

LD 404 - A SURVEY OF BLACK AMERICAN LITERATURE 2 3 credits

This course is a continuation of LE 304 and, as such, also provides a broad sampling of Black American authors and their various types of writing. The works studied include those genres which have dominated the modern era from the mid-1940's to the present - realistic and protest fiction, innovative poetry and drama, contemporary criticism, etc. Moreover, the course will continue, on a more immediately relevant level, the development of an appreciation of that particular quality of life known as the "Black Experience."

Offered Spring Semester

FOREIGN LANGUAGES

FRENCH**LE 124-ELEMENTARY FRENCH 1 3 credits**

This introductory course is designed primarily for students who have had no previous experience with the language. Reading comprehension and mastery of the phonic patterns of the language are first objectives. Some basic grammar is introduced. Televised and semi-programmed materials help to accommodate the individual learning pattern and pace. Work with tapes is required. NO PREREQUISITES.

Offered Fall Semester

LE 224-ELEMENTARY FRENCH 2 3 credits

This is a continuation of Elementary French 1. Using televised materials with an accompanying text, grammar is studied in context and the first objective of the course is the development of oral comprehension and conversational skill in a limited context. Work with tapes is required. PREREQUISITES: Elementary French 1 or two units of French at entrance.

Offered Spring Semester

LE 324-INTERMEDIATE FRENCH 1 3 credits

The intermediate sequence is designed for students who have had a measure of experience with the language and seek to increase their control of the basic skills. Conversation, comprehension practices, grammar and guided composition, reading on both elementary and advanced levels make up the content of the course in a combination that reflects the background and interests of the group. Work with tapes or television is required. PREREQUISITES: Elementary French 2 or 3 units of French at entrance.

Offered Fall Semester

LE 421-DIRECTED STUDY IN FRENCH Var Credit
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairpeople. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

LE 424-INTERMEDIATE FRENCH 2 3 credits

This is a continuation of Intermediate French 1. Classes are conducted in French. Small group instruction provides an individualized, intensive learning experience in which the student shares in the selection of course priorities and assumes responsibility for his progress. Work with tapes or television is required. Some independent reading, oral reports, etc. PREREQUISITES: Intermediate French 1 or 4 units of French at entrance.

Offered Spring Semester

SPANISH**LF 120-CULTURAL SPANISH 3 credits**

This course is a combination of language and culture. It stresses the importance of oral communication and cultural awareness in practical settings concerning the growing monolingual Spanish-speaking population in our communities.

Offered Fall & Spring Semester

LF 121-ELEMENTARY SPANISH 1

3 credits

The approach to this course is strictly unitarian, lessons centering around realistic themes and situations. Only a limited amount of grammar is introduced; the course concentrates on the acquisition of pragmatic vocabulary, verb patterns and idiomatic expressions used in daily situations. Language lab is required.

Offered Fall & Spring Semester

LF 221-ELEMENTARY SPANISH 2

3 credits

A continuation of Elementary Spanish 1. Students are urged to start using basic conversational patterns and developing some reading skills. Language lab is required. PREREQUISITE: LF 121 or 2 units at entrance.

Offered Fall and Spring

LF 321-INTERMEDIATE SPANISH 1

3 credits

A review of grammar will be given in this course; oral drill and conversation receive special attention. The reading skills are further developed. Students are introduced to basic writing skills. Language lab is required. PREREQUISITES: 3 units of Spanish at entrance or LF 221.

Offered Fall and Spring

LF 421-INTERMEDIATE SPANISH 2

3 credits

A continuation of Intermediate Spanish 1. The reading and writing skills receive special attention. A Spanish novel is required reading. Taught in Spanish. Language lab is required. PREREQUISITES: 4 units of Spanish at entrance or LF 321.

Offered Fall and Spring

LD 079-BASIC STUDY SKILLS IN SPANISH

Variable Credit

This course is designed to deal with study skills necessary for successful college work. Topics discussed include note taking, outlining, time allotment, preparation for exams, and the organization of a term paper. The second part is designed to acquaint students with information concerning job placement, resumes and interviews.

MUSIC**LM 130-MUSIC**

3 credits

A survey course for the general student in which significant works from the several periods of music history will be heard and discussed. This course will be open to all students at the college. Outside listening and reading assignments will be scheduled and attendance at live concerts will be encouraged.

Offered Fall & Spring Semester

LM 133-INTRODUCTION TO PIANO AND THEORY

3 credits

An adult approach for beginning piano students. The course will be taught as a laboratory skills program with emphasis on the basic structure of keyboard music. Melody, chords, rhythm, form, dynamics and style will be studied by the student at the keyboard and discussed in lecture sessions. Students will be encouraged to proceed as their individual abilities permit requiring considerable individualization of instruction as the student gains in

technical mastery. Open to all students at the college regardless of previous musical experience.

Offered Fall & Spring Semester

LM 134-MUSIC FOR EARLY CHILDHOOD EDUCATION

3 credits

An introductory course in the tenets of music, keyboard experience and practical musical activities suitable for use in nursery, kindergarten and primary programs. Also included will be workshop experiences in rhythmic movement, singing, dramatization and rhythm instruments. Restricted to Early Childhood Education majors.

Offered Fall & Spring Semester

LM 233-INTERMEDIATE PIANO AND THEORY 2

2 credits

A continuation of the Introduction to Keyboard Skills course. Mastery of major and minor scales, arpeggios, and chords in all keys will be taught. The emphasis will be on developing mastery of sight-reading skill, providing the student with skills for further self-exploration of the keyboard upon completion of the program. Course open with the permission of the instructor or the satisfactory completion of LM133.

Offered Fall & Spring Semester

PHILOSOPHY**LX 110-PHILOSOPHY**

Philosophy is part of the study of the self: the search for reasons for our values and beliefs; and for good reasons for our reasons. The course includes a critical examination of the traditional questions in ethics, politics, religion and art.



Social Sciences



SOCIAL SCIENCES

Minimum Grade Requirement: Liberal Arts Transfer students must achieve a cumulative average of "C" (2.0). All students should, however, check with their own major to determine the cumulative minimum grade requirement for graduation or certification.

ECONOMICS

NE 100-PRINCIPLES OF ECONOMICS 1 3 credits
This course is offered primarily for those students who might not take more than one or two semesters of economics but are interested in the subject as a part of a general education. It aims at the understanding of current economic institutions and the economic problems of modern industrialized society such as inflation, unemployment, and economic growth. No previous knowledge of economics is required.

Offered Fall & Spring Semester

NE 200-PRINCIPLES OF ECONOMICS 2 3 credits
This course is the sequential course to Principles of Economics I NE100 and is primarily concerned with Microeconomics. Microeconomics deals with the subsystems of the economy such as the economics of the individual, the firm and an industry. The major emphasis is on a thorough analysis of supply and demand and of the four-market structures. The theories and concepts are then applied to such relevant topics as poverty, ecology, and population growth. **PREREQUISITES:** NE100.

Offered Fall & Spring Semester

NE 300-CURRENT ECONOMIC PROBLEMS 3 credits
A course designed to acquaint the student with several of the more important problems of our economy such as economic growth, unemployment, consumer credit, cost of air pollution and population explosion.

Offered Fall & Spring Semester

NE 310-COMPARATIVE ECONOMIC SYSTEMS 3 credits
This course considers an analysis of today's major economic systems, such as the American modified market economy, the mixed economies of Western Europe, France, Germany, United Kingdom and the command economies of the Soviet Union and the Peoples Republic of China. **PREREQUISITE:** NE100.

Offered Spring Semester

NE 495-DIRECTED STUDY IN ECONOMICS Variable credits
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

HISTORY

NH 100-HISTORY OF WESTERN CIVILIZATION 1 3 credits
Origin and development of Western Civilization beginning with the classical civilizations of Greece and Rome, continuing through early Christianity and the Middle Ages, and concluding with the Renaissance and Reformation.

Offered Fall & Spring Semester

NH 110-SURVEY OF EARLY U.S. HISTORY 3 credits
History of the United States from the Colonial period to the end of the Civil War. A topical approach is followed within a chronological framework centering on the colonial origins of American society, its separation from England, the subsequent process of nation building and the development of the Civil War during the Ante-Bellum period.

Offered Fall & Spring Semester

NH 200-HISTORY OF WESTERN CIVILIZATION 2 3 credits
Modern Western Civilization from the end of the Middle Ages to the present. Begins with Seventeenth Century Europe and discusses the beginnings of modern science; the Enlightenment and the political revolutions in England, America, and France; the Industrial and Intellectual revolutions of the Nineteenth Century; the World Wars of the Twentieth Century and developments which follow in the post-war period.

Offered Fall & Spring Semester

NH 210-SURVEY OF MODERN U.S. HISTORY 3 credits
History of the United States from the Reconstruction period to the present. Consideration will be given to the impact of the Industrial Revolution on Late Nineteenth Century America and the influence of war and reform on the nation during the Twentieth Century. A social-cultural and new political approach will be utilized.

Offered Fall & Spring Semester

NH 495-DIRECTED STUDY IN HISTORY Variable Cr.
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.



SOCIOLOGY/ANTHROPOLOGY

NS 100-INTRODUCTION TO SOCIOLOGY 3 credits

An introductory course designed to acquaint the student with a working knowledge of the concepts used by sociologists and with the well-established generalizations in the field. Topics to be studied include socialization, culture, population, group processes and social stratification. Offered Fall & Spring Semester

NS 110-INTRODUCTION TO ANTHROPOLOGY 3 credits

A general introduction to social and cultural anthropology which will explore among the diverse cultures of the world some of the possible variations in technology, economics, social and political organization, art, religion and ideology. Each year the world grows smaller in each area of communication, transportation, and general economic interdependence. However, an understanding of cultural differences among the people of the world is often lacking. Cultural anthropology provides a systematic description and comparison of the ways of life of groups of people throughout the world. An appreciation of the solutions to human problems developed by other cultures allows not only greater perception of our own way of life, but also of the values and goals of others. The fundamental objective of this course is to provide insight into various ways that people respond to basic human needs.

Offered Fall Semester

NS 200-SOCIAL PROBLEMS 3 credits

This course applies the principles and concepts of sociology to selected aspects of contemporary American society, such as the areas of poverty, crime, urban change, population, alcoholism, role redefinitions, minority group relations and drug addiction. **PREREQUISITE: NS100**

Offered Fall & Spring Semester

NS 250-SOCIOLOGY OF THE FAMILY 3 credits

The course will focus on the historical development and change of the family, its structure and functions and its relationship to the other major institutions of society. Although the primary focal point will be the American family, cross-culture comparison will be used especially in the study of marriage and kinship practices. Strong emphasis will also be placed on family change and the family as a social problem including such topics as the single parent, changing sex roles and communes.

PREREQUISITE: NS100

Offered Fall & Spring Semester

NS 485-DIRECTED STUDY IN ANTHROPOLOGY Var cr
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

NS 495-DIRECTED STUDY IN SOCIOLOGY Var. Cr.
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

PSYCHOLOGY AND EDUCATION

NP 100-GENERAL PSYCHOLOGY 3 credits

This introductory course identifies those scientific methods used to study human behavior. Discussion centers around the contribution of heredity, environment, learning, perception, motivation and emotion in shaping our individual personalities.

Offered Fall & Spring Semester

NP 109-HUMAN RELATIONS AT WORK 3 credits

This is a course designed to build a strong self image. Each student has an opportunity to understand that he/she is a functioning human being in the twentieth century and that this is not a task to be taken lightly. He/she will realize that we are all similar in many ways and that we are also different. Hopefully this course will help the student establish a philosophy of life that will be very helpful in his/her communications and awarenesses of the future.

Offered Fall & Spring Semester

NP 300-CHILD & DEVELOPMENTAL PSYCHOLOGY 3 crs

This advanced course examines the major influences on a child's physical, mental and personality development from conception to adolescence. Students have an opportunity to explore the questions, "What made you the kind of child you were and the kind of adult you are now?" Basic theories and contemporary research suggest some answers for more effective parenting.

PREREQUISITE: NP109 or NP100.

Offered Fall & Spring Semester

NP 400 PRINCIPLES OF NORMAL/ABNORMAL BEHAVIOR 3 credits

A general introduction into the origin, development, degrees of mental disorganization, and the methods of coping with psychological dysfunction. Inquiry will also be made into the theoretical and applied approaches of several of the major schools of thought with regard to helping services. **PREREQUISITE: NP100.**

Offered Fall & Spring Semester

NP 409-INTRODUCTION TO INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY 3 credits

The application of basic psychological principles to human problems in industry. Major areas of emphasis will include worker motivation, individual differences, personnel problems, selection and training, job satisfaction, employee attitudes and incentives, industrial mental health, human relations factors and psychological tests used in industry. **PREREQUISITE: NP109 or NP100.**

Offered Spring Semester

NP 495-DIRECTED STUDY IN PSYCHOLOGY

Variable credits
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

ND 120-CAREER PLANNING & DEVELOPMENT

3 credits

For students in Student Development, General Studies, or the Technologies. Systematic career development skills with an emphasis on personal awareness, career exploration, value clarification, decision-making, job market survey, and program development. In addition to the above topics, the student will be tested using the following battery to provide more in-depth information on each individual: Strong-Campbell Interest Inventory, Self-Directed Search, General Aptitude Test Battery.

Offered Spring Semester

POLITICAL SCIENCE/GOVERNMENT

NI 100-AMERICAN GOVERNMENT AND POLITICS

3 credits

An analysis of the way in which politics & political institutions work in American society. The major problems of American democracy are examined; their political, social and economic implications explored; Constitutional rights & freedoms; the Federal Power Structure; Changing Governmental Institutions.

Offered Fall Semester

NI 200-EUROPEAN COMPARATIVE GOVERNMENTS

3 credits

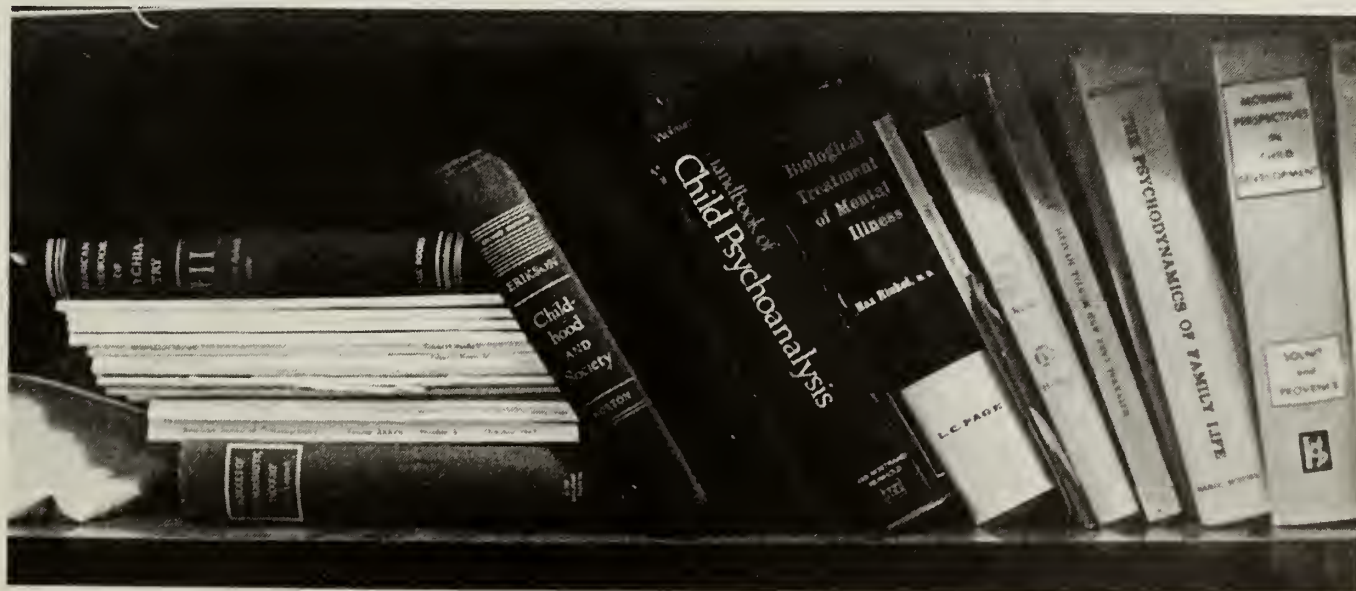
A functional analysis of the government and politics of four European political systems: Great Britain, France, West Germany and the Soviet Union. The historical development of political institutions will be traced and compared, while changing social, economic, and cultural conditions are emphasized.

Offered Fall Semester

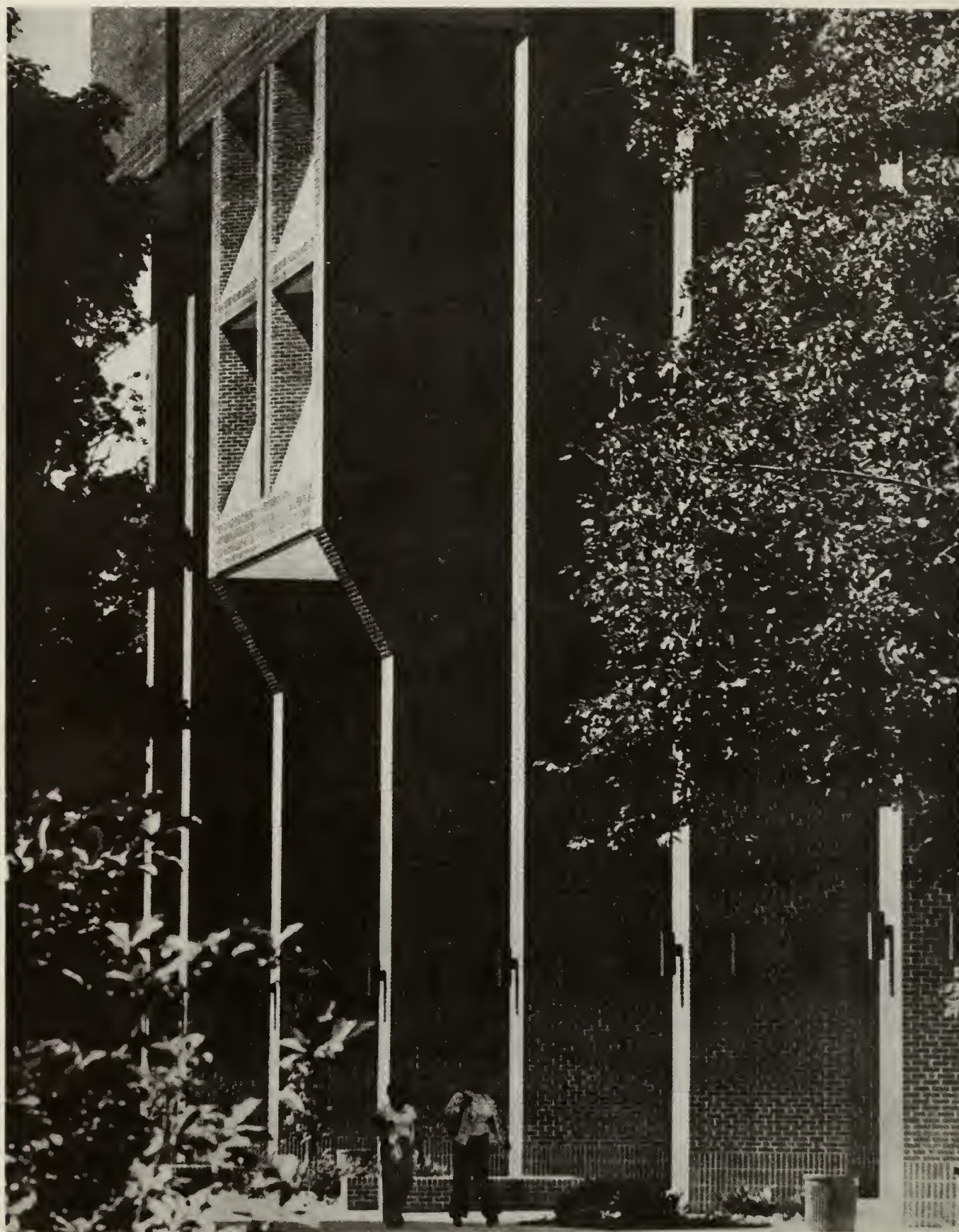
NI 495-DIRECTED STUDY IN POLITICAL SCIENCE

Variable credit

Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contracts.



Math and Natural Sciences



MATH AND NATURAL SCIENCES

ENGINEERING SCIENCES

ME 100-SPECIAL PROJECTS IN ENGINEERING 1

1,2,3, or 4 cr

Special projects in engineering under the direction of an instructor. PREREQUISITE: Permission of the Department Chairperson.

Offered Fall & Spring Semester

ME 101-SPECIAL PROJECTS IN ENGINEERING

TECHNOLOGY 1

1,2,3, or 4 cr

Special projects in Engineering Technology under the direction of an instructor.

PREREQUISITE: Permission of the Department Chairperson. Offered Fall & Spring Semester

ME 102-SPECIAL PROJECTS IN ENGINEERING

TECHNOLOGY 2

1,2,3, or 4 cr

Continuation of Special Projects in Engineering Technology 1. PREREQUISITE: Permission of the Department Chairperson.

Offered Fall & Spring Semester

ME 103-INTRODUCTION TO ENGINEERING 21

2 cr

An introduction to the fields of science and engineering for freshman engineering students. Educational requirements, career possibilities, job functions and material rewards are considered. Guest lectures are given by various scientists and engineers concerning their specific disciplines. Numerous field trips to scientific and engineering facilities are made. Engineering design exercises requiring creative efforts are assigned and the basic concepts of linear algebra including Gaussian Elimination, Cramer's Rule, and Matrix Techniques are developed. Two hours of lecture and one three-hour laboratory. PREREQUISITE: MM101-MM103.

Offered Fall Semester

ME 104-INTRODUCTION TO ENGINEERING 22:

COMPUTER PROGRAMMING

3 credits

A continuation of Introduction to Engineering 21 with the major emphasis on the development of the computer language Fortran as a powerful tool in solving a number of diverse problems in science and engineering. A brief introduction to numerical analysis is also presented. Three hours of lecture. PREREQUISITE: MM151-MM154.

Offered Spring Semester

ME 105-SENIOR ENGINEERING SEMINAR

No credit

This course is designed to increase the awareness of senior engineering transfer students to the opportunities for transfer to the local engineering colleges and universities as well as the opportunities for employment with the local engineering industries. This is accomplished by seminars, meetings and tours, both at and away from STCC, with college, university and industrial representatives. A satisfactory grade in this course is contingent upon the the submittal of several transfer applications through the college transfer counselor for those students interested in continuing

their engineering education. The students interested in an industrial position must prepare a resume and submit the necessary job applications through the college placement director to complete satisfactorily this course. Senior standing in the Engineering Transfer Department is required. Offered Fall Semester

ME 200-SPECIAL PROJECTS IN ENGINEERING 2

1,2,3, or 4 cr

Continuation of ME100. PREREQUISITE: Permission of the Department Chairperson.

Offered Fall & Spring Semester

ME 204-NUMERICAL ANALYSIS & COMPUTER METHODS

3 credits

Extensive application of the FORTRAN language to diverse engineering problems. Numerical techniques for evaluating functions, curve fitting, interpolation, differentiation and integration, and solving systems of algebraic and first and second order differential equations. Satisfies concentration requirements for transfer in computer science. PREREQUISITE: ME104, Introduction to Engineering 22/Computer Programming. Offered Fall Semester

ME 310-MECHANICS 1

3 credits

A vector approach to the study of engineering statics. This includes the resolution and composition of forces as applied to the analysis of systems in static equilibrium. Friction, centroids and moments of inertia are investigated. PREREQUISITE: MM151-MM154 and Physics MP132.

Offered Fall Semester

ME 320-SYSTEMS ANALYSIS 1

4 credits

Physical characteristics and mathematical models of system elements with an emphasis on electrical circuits, techniques for writing and solving system dynamic equations. Three hours of lecture and one three-hour laboratory. PREREQUISITE: MM251-MM254.

Offered Fall Semester

ME322-INTRODUCTION TO DIGITAL SYSTEMS

3 credits

An introduction to the theory of digital circuits, stressing general techniques for the analysis and synthesis of combinational and sequential logic systems.

Offered Fall & Spring Semester

ME 330-INTRODUCTION TO MATERIAL SCIENCE

3 credits

The atomic and molecular phenomena responsible for the behavior of materials. The relationship between the atomic structure of materials and their behavior is emphasized. PREREQUISITE: Chemistry 22 MC302

Offered Fall Semester

ME 331-MATERIAL SCIENCE LAB

1 credit

This course is an introduction to mechanical testing and the metallography of metals and alloys. This course must be taken concurrent with ME330.

Offered Fall Semester

ME 105 Descriptive Geometry

✓
ME 335-MECHANICS OF MATERIALS 3 credits
A study of the stress-strain relationships in solids subjected to external force loads. This includes tension, compression, torsion, flexure and deflection of columns and beams.
PREREQUISITE: Mechanics 1 ME310.

Offered Spring Semester

ME 350-ENGINEERING THERMODYNAMICS 1 3 credits
A classical presentation of the study of the laws of conservation of matter and energy, the three basic laws of thermodynamics and their application to batch and flow processes. Thermal properties of ideal and real gases, solids and liquids including internal energy, enthalpy and entropy are presented. Energy cycles are discussed. PREREQUISITES: MM351-MM354 and Physics 21 MP132.

Offered Spring Semester

ME 360-FLUID MECHANICS 3 credits
This course consists of a study of fluid statics and kinematics. A complete study of frictionless incompressible flow using Bernoulli's equation, the continuity equation and the momentum equation is presented and applied to various engineering problems. The concept of viscosity and laminar viscous flow is introduced using the Navier Stokes equation in rectangular and cylindrical co-ordinates. Pipe friction and the Reynolds number in laminar and turbulent flow are discussed. The boundary layer equations on laminar and turbulent flows are developed. COREQUISITE: Engineering Mathematics MM436.

Offered Fall Semester

ME 410-MECHANICS 2 3 credits
A vector approach to kinematics and particle kinetics utilizing Newton's Law of Motion, Conservation of Energy and the concept of Impulse and Momentum. Problems of rotation and translation are analyzed in rectilinear and curvilinear co-ordinates. PREREQUISITE: Mechanisms 1 ME310.

Offered Spring Semester

ME 420-SYSTEMS ANALYSIS 2 4 credits
Concepts relating to transfer functions: digital and analog solutions of system equations, time and frequency domain analysis techniques and stability. Three hours of lecture and one three-hour laboratory. PREREQUISITE: Systems Analysis 1 ME320.

Offered Spring Semester

ME 421-ENGINEERING MEASUREMENT AND ANALYSIS 3 credits
Introduction to engineering measurements and analysis, relating scientific principles to engineering applications, stressing experimental methods, data acquisition and processing. Two hours of lecture and one three-hour laboratory. PREREQUISITES: Mechanics 1 ME310 and Systems Analysis 1 ME320.

Offered Spring Semester

ME 450-ENGINEERING THERMODYNAMICS 2 3 credits
Continuation of Engineering Thermodynamics 1. Deals with the engineering applications. These include fluid mechanics, gas dynamics, gas and

vapor power cycles, refrigeration, heat transfer and chemical reactions and equilibrium.
PREREQUISITE: Engineering Thermodynamics 1 ME350.

Offered Fall Semester

ME 460-HEAT TRANSFER 3 credits
A study of the fundamental laws of heat transfer by conduction, convection and radiation. Application of conduction and convection to insulation and heat exchanger design. Selected one, two and three dimensional problems in conductive heat transfer are solved using analytical, graphical and numerical techniques. Heat transfer in laminar and turbulent boundary layers in comprehensible fluids are investigated. Radiative heat exchange is examined.
PREREQUISITE: Fluid Mechanics ME360.

Offered Spring Semester

GD110, GD240-PROGRAMMED ENGINEERING GRAPHICS
Offered Fall & Spring Semester

GD 110-MODULE 1 1 credit
Instruments and their use, applied geometry, orthographic drawing and sketching.

GD 120-MODULE 2 1 credit
Lettering, auxiliaries: normal and edge views, sections and conventions.

GD 130-MODULE 3 1 credit
Intersections and developments, drawings and the shop working drawings.

GD 140-MODULE 4 1 credit
Dimensions, notelimits, catalogues.

GD 150 MODULE 5 1 credit
Introduction, electricity and batteries, schematics, assembly-disassembly.

GD 210-MODULE 6 1 credit
Power Distribution Graphics: Electrical drafting, contractor drawings.

GD 220-MODULE 7 1 credit
Electronics Graphics: Electrical (Electronic Drafting), system design, special equipment.

GD 230-MODULE 8 1 credit
Architectural Graphics: Oblique drawings, drawing of structures, graphical vendor analysis.

GD 240-MODULE 9 1 credit
Perspective drawings, shapes and shadows, presentation drawings.

ME 350

HE 226-INTRODUCTION TO CHEMICAL ENGINEERING 3 credits
An introduction to the material and energy balances commonly applied to processes in the chemical, petroleum and environmental fields. Also included is a study of the pressure-volume temperature relationships of gases and a brief introduction to selected thermodynamic properties of solids, liquids and gases. Computer solutions are utilized in selected problems.
PREREQUISITES: MM251-MM254, Chemistry 22, and Introduction to Engineering 22.

Offered Fall Semester

BIOLOGY

MB 018-GENERAL BOTANY (One Semester) 4 crs
A non-majors course which provides an overview of basic concepts of plant morphology and physiology, in addition to introducing students to the historical, ecological, economic and cultural importance of plants. **PREREQUISITES:** None
Offered Spring Semester

MB 090-BASIC SCIENCE 3 4 credits
Introduction to experimental biology, through interpretation of many simple experiments. Emphasis on development of the student's confidence, initiative and self-reliance. Survey of general biological principles, including modern genetics, ecology, evolution and human organ systems. The course serves as preparation for other college biology courses and is suitable for students who have taken no previous science. **PREREQUISITE:** MP 090.
Offered Spring Semester

MB 100 NATURAL HISTORY 4 credits
This course is designed to provide a basic background in botany, zoology and ecology. Field studies and laboratory experiences are designed to help potential pre-school teachers develop programs for their classes.
PREREQUISITES: None

MB 101-BIOLOGY OF MAN 4 credits
This course is designed to meet the needs of the student who has no background in biological science. Basic biological concepts are presented with emphasis on the human body. This is a one-semester program and may be used for students who require 4 credit hours in a lab science.
Offered Spring Semester

MB 102-PRINCIPLES OF BIOLOGY 1 4 credits
An introductory course designed to meet the needs of the student who has no background in chemistry or biology. It is a two semester presentation of the basic concepts of life science for the transfer student who does not plan to major in science. The first semester provides a survey of fundamental biological concepts including: the cell theory, maintenance in plants and animals, reproduction and development, genetics, the evolution and diversity of life forms and the relationships between organisms and their environment. These concepts are reinforced and augmented by laboratory activities which investigate life processes in plants and animals. No prerequisites.
Offered Fall & Spring Semester

MB 103-BIOLOGIA EN ESPANOL 1 4 credits
Este es un curso introductorio con el proposito de satisfacer las necesidades del estudiante que no tiene conocimientos en quimica y biologia. La duracion del curso es de dos semestres; de los conceptos basicos de la vida para el estudiante que no piensa concentrarse en las ciencias. El primer semestre provee un estudio de los diferentes fundamentos biologicos que incluyen: la teoria celular, el mantenimiento de las plantas y animales, reproduccion y desarrollo, genetica, la

evolucion y diversidad en las diferentes formas de vida y la relaciones entre los organismos y su ambiente. Estos conceptos seran reforzados y complementados por las actividades en el laboratorio donde se investigaran los procesos de la vida en las plantas y animales.

MB 104-HUMAN BIOLOGY 1 4 credits
This course is an integration of anatomy, physiology and clinical laboratory procedures that will prepare medical assistants to aid the physician in his diagnosis and treatment of a patient's illness. A comprehensive study is made of the structure and function of the human body. The course emphasizes the study of cells and tissue as related to the skeletal, muscular, respiratory and circulatory systems. Clinical laboratory procedures stressed in Human Biology 1 and Human Biology 2 are: Hematology, Simple Microbiology, Immunology, Urinalysis, and other routine chemical tests. Open to Medical Assistants and Medical Secretaries only.
Offered Fall Semester

MB 105-GENERAL ZOOLOGY 4 credits
An introduction to animal biology. Major topics include: cell structure, function, the physiology, heredity, development, behavior, and evolution of animals, supplemented by laboratory examination of the anatomy of the major groups in the animal kingdom. No Prerequisites.
Offered Fall Semester

MB 106-GENERAL BIOLOGY 1 4 credits
Geared to the prospective science major, the first semester of this course focuses on a study of chemical and cellular similarities in living organisms emphasizing the basic unity of life. General morphology and physiology of plants and vertebrate and invertebrate animals are discussed with emphasis on the vascular plant and human organ systems. **PREREQUISITE:** Qualified science majors, allied health candidates, or permission of the instructor.
Offered Fall Semester

MB 107-INDEPENDENT BIOLOGY STUDY 1 4 credits
This course is designed for highly motivated prospective science majors. Attendance in the regular MB-106 lecture will be required. A three-hour lab discussion session will be required as well. **PREREQUISITE:** Permission of Department Chairman.
Offered Fall & Spring Semester

MB 113-MAN AND HIS ENVIRONMENT 4 credits
Man and His Environment is a four credit lab course designed to meet the needs of the non-science major. Presupposing no background in science, it focuses on man's interdependence with nature. The first half of the course emphasizes major principles of ecosystems while the second half deals with the entire spectrum of environmental problems affecting man and the possible solutions to them.
PREREQUISITES: None
Offered Spring Semester

MB 120-ENVIRONMENTAL MICROBIOLOGY 3 credits
A general investigation of microbial structure, growth, and physiology. Particular attention is paid to the roles micro-organisms play in aquatic environments. PREREQUISITES: Chemistry 1 (MC 100) or Chemistry 11 (MC 102)

MB 121-MICROBIOLOGY 4 credits
A basic study of micro-organisms, their activities, destruction and control. The concepts of infection, immunity & hypersensitivity precede the survey of the microbiology of major infectious diseases. PREREQUISITES: High School Chemistry & Biology. Offered Fall & Spring Semester

MB 125-MICROBIOLOGY FOR DENTAL ASSISTANTS 1 credit
This course is designed to present the practical and elementary theoretical aspects of microbiology. Emphasis will be placed on sterilization, disinfection and aseptic techniques utilized in the dental office. History, structures, development and types of bacteria will also be discussed. Offered Fall Semester

MB 131-HUMAN ANATOMY & PHYSIOLOGY FOR MENTAL HEALTH/HUMAN SERVICES 3 credits
This is a course requiring no prior biological background. The organization of the human body from the cellular level to the various organ systems is included. Consideration of the pathological process in the human is integrated into the discussion of each organ system. This course combines lectures and appropriate demonstrations of physiological function. The first semester will include a consideration of cells and tissue and an emphasis on the regulatory systems of the body with particular emphasis on the nervous system. Restricted to Department AM. Offered Fall Semester

MB 132-ANATOMY & PHYSIOLOGY 1 4 credits
A comprehensive study of the structure and function of the human body, emphasizing the normal which will serve as a background for the application of scientific principles both in everyday life and in the work of various health disciplines. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with physiological experimentation. Units covered are concerned with general introductory material, the skeleton, muscles and the nervous system. PREREQUISITES: Biology and Chemistry. Offered Fall Semester

MB 133-ANATOMY & PHYSIOLOGY/MLT 4 credits
A series of lectures and laboratory experiences designed to provide students with a general understanding of the structure of the human body with emphasis placed on major physiological principles. Three lecture hours and one three-hour laboratory. PREREQUISITES: Biology and Chemistry. Offered Fall Semester

MB 134 BIOLOGICAL SYSTEMS FOR THE DENTAL ASSISTANT 1 credit
This course is designed to review the nine basic biological systems. Emphasis is placed on normal structure and function. Included will be the study of diseases and abnormalities relating to each specific system. Offered Fall Semester

MB 136-APPLIED PHYSIOLOGY 4 credits
This course takes various concepts in human physiology and by a lecture-laboratory approach the physiological principles are explained and illustrated by laboratory experience and clinically oriented tests. The instrumentation and methodology used in studying physiology and making clinical evaluation are emphasized. Aspects of the cardiovascular, respiratory, excretory, immune and nervous systems are investigated in this course. PREREQUISITES: Biology (MB 102, MB 202) & Chemistry MC 100. Offered Spring Semester

MB 140-BIOCHEMISTRY FOR HEALTH SCIENCES 3 cr
An introduction to biochemical principles. Emphasis is on the major metabolic pathways, the mechanisms of enzyme action, bioenergetics and the role of hormones and other regulatory substances. PREREQUISITES: General Biology, Anatomy & Physiology, General Chemistry or permission of the instructor. Offered Fall Semester

MB 142-INTRODUCTORY NUTRITION 3 credits
Application of nutrition principles in the planning, selection and preparation of foods to meet ones physical, social and economic needs. Discussion of current issues such as vegetarianism, health foods, fad diets, weight control, food additives/preservatives, nutrition labeling, stretching the food dollar, and safe food handling will be presented. PREREQUISITES: None. Offered Spring Semester

MB 202-PRINCIPLES OF BIOLOGY 2 4 credits
The second semester is an in depth examination of the concepts presented in Principles of Biology 1. In order to gain an understanding of the function of the human body and the interaction of humans with their environment, certain first semester concepts are expanded; in order to comprehend the cellular approach to modern biology, other concepts are examined on a molecular level. Topics include: biochemistry, human anatomy and physiology, reproduction and development, modern genetics, and modern evolution and ecology. PREREQUISITES: MB 102 Principles of Biology for permission of the instructor. Offered Fall & Spring Semester

MB 203-BIOLOGIA EN ESPANOL 2 4 credits
El segundo semestre es un analisis a fondo de los conceptos presentados durante el primer semestre. Algunos de los conceptos estudiados en el primer semestre seran expandidos de manera de tener un mejor conocimiento de las funciones del cuerpo humano y de la interrelacion del hombre con su ambiente. Ciertos conceptos seran expandidos para asi tener un mejor entendimiento del enforque celular de la biologia moderna. Otros conceptos presentados seran examinados a un nivel molecular. Topics que se incluiran durante el segundo semestre: bioquimica, anatomia humana y fisiologia, reproduccion y desarrollo, genetica moderna, evolucion moderna y ecologia.

MB 204-HUMAN BIOLOGY 2 4 credits
This is a continuation of Human Biology 1. The program includes the nervous, endocrine, digestive, and genito-urinary systems and their relationships to total body organization. PREREQUISITE: Human Biology 1 (MB-104). Offered Spring Semester

MB 206-GENERAL BIOLOGY 2

4 credits

Modern concepts in animal behavior, genetics, population biology and ecology and evolution are discussed. A survey of plant and animal kingdoms emphasizes diversity, similarities and possible evolutionary patterns.

PREREQUISITE: General Biology 1 (MB 106).

Offered Spring Semester

MB 207-INDEPENDENT BIOLOGY STUDY 2

4 credits

A continuation of MB-107. Attendance in regular MB-206 lectures is required. PREREQUISITE: MB-107 & permission of Department Chairman.

Offered Fall & Spring Semester

MB 231-HUMAN ANATOMY & PHYSIOLOGY FOR MENTAL HEALTH/HUMAN SERVICES 2

3 credits

The second semester is a continuation of MB 131 and will include a consideration of the cardiovascular, respiratory, digestive, urinary and reproductive systems. Restricted to Dept. AM. PREREQUISITES: Human Anatomy & Physiology for Mental Health/Human Services 1 (MB 131).

Offered Spring Semester

MB 232-ANATOMY & PHYSIOLOGY 2

4 credits

A continuation of Anatomy & Physiology 1 concentrating on body metabolism, reproduction and endocrine control. Laboratory sessions are included. Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole. PREREQUISITE: Anatomy & Physiology 1 (MB-132).

Offered Spring Semester

MB 320-HISTOLOGY

4 credits

A study of the microscopic anatomy of cells, tissues, and organs as related to function. Emphasis is on mammalian systems. Discussion of microtechnique, electrophotomicroscopy, and tissue culturing will be introduced.

PREREQUISITES: Biology (MB 106, MB 206); Anatomy & Physiology (MB 132, MB 232); Human Biology (MB 104, MB 204); or permission of Instructor.

Offered Fall Semester

MB 350-EMBRYOLOGY

4 credits

This course will expose the student to the fundamental growth processes and mechanisms that govern normal growth and development in the chick and pig embryos. Emphasis will be placed on the development of major organs and organ systems and how these systems develop into normal adult structures. Laboratory experiments models and slides will be used to reinforce the basic principle of normal development and thus provide a basis for the discussion of abnormal development. PREREQUISITES: Biology (MB 106, MB 206); Biology (MB 102, MB 202); Anatomy & Physiology (MB 132, MB 232); or permission of Instructor.

Offered Spring Semester

MB 360-GENETICS

4 credits

An introduction to the principles of classical and biochemical genetics, surveying microbial genetics, population genetics and human heredity. Laboratory experiments are designed to demonstrate the major principles discussed in lecture. PREREQUISITE: General Biology, Anatomy & Physiology, General Chemistry or permission of Instructor.

Offered Spring Semester

CHEMISTRY**MC 100-CHEMISTRY 1**

4 credits

A study of the fundamental principles of chemistry in relation to the properties, composition and structure of matter. A primary aim of the course is to prepare students for subsequent courses in the technologies. Chemistry 1 is a one-semester terminal chemistry course. Three one-hour lectures per week, one three-hour lab. PREREQUISITE: Concurrent Math MM 091 & MM 093 and one year of High School Physical Science or equivalent.

Offered Fall & Spring Semester

MC 101 GENERAL CHEMISTRY 101

4 credits

A one-year general chemistry course for students in the Health and Sciences and for transfer students who do not wish to major in a science or engineering. The first semester of the course will consist of a study of the general principles of inorganic chemistry, stressing concentration, dilution, equilibrium, and descriptive chemistry. Three one-hour lectures per week, one three-hour lab.

PREREQUISITE: Math MM 091 - MM 093 and one year of high school laboratory science or permission of instructor.

Offered Fall Semester

MC 103-GENERAL CHEMISTRY 21

4 credits

An introductory course in general chemistry designed to parallel the first year chemistry course offered at universities for science and engineering students. Modern theories of chemical reactions, chemical bonding, atomic and molecular structures are emphasized. Three one-hour lectures per week, one three-hour lab. PREREQUISITES: One year of High School Physical Science and Math (MM 131) or equivalent.

Offered Fall Semester

MC 111-MC 118-GENERAL CHEMISTRY 21 & 22

Offered Fall & Spring. One credit per module.

MC 111-MODULE 1

Units and conversions, atomic structure, atomic weight, mole concept, balancing equations, theoretical yields.

MC 112-MODULE 2

Gases, pressure, Boyle's, Charles', Guy Lussac's and Dalton's Laws, Ideal and real gases, kinetic theory.

MC 113-MODULE 3

Periodic Table, electronic configuration of atom, quantum theory, bonding molecular geometry and bonding.

MC 114-MODULE 4

Physical properties in relation to structure, changes in states, solutions.

MC 115-MODULE 5

Equilibrium.

MC 116-MODULE 6

Thermodynamics and rates of reactions.

MC 117-MODULE 7

Acids and bases.

MC 118-MODULE 8

Oxidation, reduction, introduction to organic chemistry. PREREQUISITES: Same as Chemistry 21. Each module includes four laboratories which must be completed before the next module can be started.

MC-140-SEMINARS IN APPLIED CHEMISTRY 1 credit

This course is a series of lectures by invited chemists practicing in non-academic laboratories. Sponsored jointly with the Cooperating Colleges of Greater Springfield.

Offered every other Spring Semester

MC-201 GENERAL CHEMISTRY 102

4 credits

The second semester will concentrate on organic & biochemistry. PREREQUISITE: General Chemistry 101 (MC 101). Three one-hour lectures per week, one three-hour lab.

Offered Spring Semester

MC 203-GENERAL CHEMISTRY 22

4 credits

A continuation of Chemistry 21. Equilibrium, reaction rate, thermodynamics, acid/base and redox reactions are stressed. The student is also introduced to basic organic chemistry and quantitative analysis.

Offered Spring Semester

MC 205-CHEMISTRY OF LITHOGRAPHY 2

4 credits

Topics in chemistry relating to the graphic arts including photography and photographic processes, colors, inks and printing. Laboratory.

Offered Spring Semester

MC 300-AUTOMOTIVE CHEMISTRY

4 credits

A study of specialized topics which are of particular interest to automotive technology. Topics covered are petroleum and how it is refined, gasoline, diesel fuel, gaseous fuels, atmospheric pollution, lubrication and lubricants, the chemistry of batteries, corrosion, hydraulic fluids and antifreeze compounds. The laboratory work consists of selected experiments with various small engines and oil and fuel testing apparatus.

PREREQUISITE: Chemistry 1 (MC 200).

Offered Fall Semester

MC 320-ORGANIC CHEMISTRY 1

4 cr. w/lab, 3 cr. no lab

A one-year course in organic chemistry at the university level. Reaction, synthesis and mechanism of organic reactions will be studied. This course is designed for transfer students with majors in chemistry, biology pre-med or pre-dental. Three three-hour lectures per week, one four-hour lab per week. Lecture may be taken with no lab.

PREREQUISITE: Chemistry MC 203 or permission of instructor.

Offered Fall Semester

MC 330-BIOCHEMISTRY

4 credits

A one-semester course in organic chemistry at the university level. Reaction, synthesis and mechanism are studied. This course is designed for transfer students with majors in chemistry, biology, pre-med or pre-dental. Three 3-hour lectures per week, one four-hour lab per week. Lecture may be taken with no lab.

PREREQUISITE: Chemistry 22 or permission of instructor.

Offered Fall Semester

MC 350-INSTRUMENTAL ANALYSIS

4 credits

The theory and practice of modern analytical methods utilizing spectroscopic, chromatographic and colorimetric techniques will be stressed. The laboratory will include selected experiments having clinical and industrial relevance. PREREQUISITES: General Chemistry MC 203 or MC 201 or permission of instructor.

MC 360-QUANTITATIVE ANALYSIS

4 credits

An introductory course in quantitative methods of analysis. Gravimetric, laboratory volumetric and colorimetric methods will be used primarily. PREREQUISITES: Chemistry MC 203 and Math MM 131.

Offered Fall Semester

MC 370-INDEPENDENT CHEMISTRY STUDY 1

1,2,3, or 4 crs

Independent study or laboratory project in Chemistry under direction of an instructor. PREREQUISITE: Permission of the Department Chairperson.

Offered Fall & Spring Semester

MC 420-ORGANIC CHEMISTRY 2

4 credits w/lab

3 without lab

A continuation of Organic Chemistry MC 320.

Offered Spring Semester

MC 470-INDEPENDENT CHEMISTRY STUDY 2

1,2,3, or 4 crs

A continuation of MC-370. PREREQUISITE: MC 370 and permission of Department Chairperson.

Offered Fall & Spring Semester

MATHEMATICS**MM 071-MATHEMATICS**

1 credit

The concept of whole numbers and the place value system. Addition, subtraction, multiplication and division of whole numbers. Exponents, perfect square roots, primes, composites and prime factoring.

MM 072-MATHEMATICS

1 credit

Fractions and decimals. Addition, subtraction, multiplication and division of both fractions and decimals. Reducing fractions and converting fractions to decimals. PREREQUISITE: MM-071 or its equivalent.

MM 073-MATHEMATICS

1 credit

Changing percentage to fractions and fractions to percentage. The solution of the various types of percentage problems. An introduction to denominate numerals. Elements of plane geometry. PREREQUISITE: MM 072 or its equivalent.

MM 074-MATEMATICAS

1 credito

Course contents same as MM 071. El concepto de numeros enteros positivos, el cero y el sistema de lugar, para el valor. Suma, resta, multiplicacion & division de numeros enteros positivos. Exponentes cuadrado perfectador, raiz cuadrada, numeros primos, numeros compuestos & factorizacion prima.

MM 075-MATEMATICAS

1 credito

Course contents same as MM 072. Fracciones & decimales. Suma, resta, multiplicacion & division de ambos, decimales & fracciones. Reduciendo fracciones & convirtiendo fracciones a decimales. PREREQUISITO: MM 074 o su equivalente.

MM 076-MATEMATICAS

1 credito

Course contents same as MM 073. Cambiar por ciento a fracciones & fracciones a por ciento. La solución de varios tipos de problemas de porcentajes. Una introducción a números denominados. Geometría plana. PREREQUISITO: MM 075 o su equivalente.

MM 081-MATHEMATICS

1 credit

The relationship of whole numbers to sets, numerals to numbers. Binary operations of addition, subtraction, multiplication and division. Solutions to simple linear equations. Five fundamental properties of equations. Properties of exponents. PREREQUISITE: MM 073 or its equivalent.

MM 082-MATHEMATICS

1 credit

The set of integers. Addition, subtraction, multiplication and division of integers. Operations with variable expressions. Introduction to solving linear equations. PREREQUISITE: MM 081.

MM 083-MATHEMATICS

1 credit

Rational, irrational and real numbers. Properties of fractional expressions. Multiplication and division, addition and subtraction of first degree fractional expressions. PREREQUISITE: MM 082.

MM 084-MATEMATICAS

1 credito

Course contents same as MM 082. La relación de los números enteros positivos & el cero con conjuntos, numerales & números. Operaciones binarias de suma, resta, multiplicación & división. Soluciones de ecuaciones lineales simples. Propiedades de los números enteros positivos & el cero.

MM 085-MATEMATICAS

1 credito

Course contents same as MM 082. Suma, resta, multiplicación & división de los números enteros. Simplificaciones de expresiones numéricas conteniendo enteros, valores absolutos & exponentes. Simplificación de expresiones variables. PREREQUISITO: MM 085 o su equivalente.

MM 086-MATEMATICAS

1 credito

Course contents same as MM 083. Propiedades & axiomas de los números reales. Suma, resta, multiplicación & división de expresiones fraccionales. PREREQUISITO: MM 085 o su equivalente.

MM 087-MATHEMATICS

1-3 credits

Same course content as MM 081, MM 082, MM 083, except courses are taught on a lecture basis rather than a programmed basis.

Offered Fall & Spring Semester

MM 091-MATHEMATICS

1 credit

Multiplication and division of algebraic expressions. Factoring. Solving linear quadratic equations. Operations with fractional expressions. Solving fractional and absolute value equations. Solving inequalities.

MM 092-MATHEMATICS

1 credit

Negative exponents and scientific notation. Introduction to radicals and fractional exponents. Operations with radical expressions. Using the quadratic formula and solving equations with radical expressions. PREREQUISITE: MM 091.

MM 093-MATHEMATICS

1 credit

The concept of an ordered pair and the real number plane. Methods of graphic linear, quadratic and absolute value equations. Systems of linear equations solved analytically and graphically. Functions and relations are defined and applied. PREREQUISITE: MM 092 or its equivalent.

MM 097-MATHEMATICS

1-3 credits

Same course content as MM 091, MM 092, and MM 093, except courses are taught on a lecture basis rather than a programmed basis.

Offered Fall & Spring Semester

MM 100-MATHEMATICS

There are 15 audio-tutorial mathematics classes in the **MM 100-MATHEMATICS** series. They are:

MM 071	MM 081	MM 091	MM 101	MM 105
MM 072	MM 082	MM 092	MM 102	MM 106
MM 073	MM 083	MM 093	MM 103	MM 107

A complete description of these audio-tutorial mathematics courses is available in the "Student Information Booklet." Copies of this booklet are available without charge by writing to: Chairman, Mathematics Department, STCC, One Armory Square, Springfield, MA 01105.

MM 101-MATHEMATICS

1 credit

Angles and their measure, Pythagorean Theorem, an introduction to right triangle trigonometry and vectors. PREREQUISITE: MM 093 or its equivalent.

MM 102-MATHEMATICS

1 credit

Introduction to sets, graphs and field properties, factoring, algebraic fractions, exponents and radicals. PREREQUISITE: MM 101.

MM 103-MATHEMATICS

1 credit

Solution sets of linear and quadratic equations, relations and functions, both linear and quadratic. PREREQUISITE: MM 102.

MM 104-MATHEMATICS

1-3 credits

Same course content as MM 101, MM 102, MM 103, except courses are taught on a lecture basis rather than on a programmed basis.

Offered Fall & Spring Semester

MM 105-MATHEMATICS

1 credit

Properties and applications of special functions and relations, conic sections variation, inverse functions, exponential functions. PREREQUISITE: MM 103 or its equivalent.

MM 106-MATHEMATICS

1 credit

Logarithms and interpolation, computation using logarithms, solution sets of exponential, radical and quadratic equations. PREREQUISITE: MM 105.

MM 107-MATHEMATICS

1 credit

The Binomial Theorem, sequences and series, complex numbers, properties of logarithms, trigonometric functions and their graphs, the law of sines and law of cosines. PREREQUISITE: MM 106.

MM 108-MATHEMATICS

1-4 credits

Same course content as MM 105, MM 106, MM 107, and MM 109, except courses are taught on a lecture basis rather than a programmed basis.

Offered Spring Semester

MM 109-MATHEMATICS 1 credit
Limits, basic concepts of differential calculus and applications, and basic concepts of integral calculus and applications. PREREQUISITE: MM 103 or equivalent.

MM 120-CONTEMPORARY MATHEMATICS 1 3 credits
Concepts of set theory and symbolic logic, mathematical systems, systems of numeration, structural properties. Development of the real number system: natural numbers-integers-rationals-reals. PREREQUISITE: MM 083 or one year of high school algebra.

Offered Fall and Spring Semester

MM 121-CONTEMPORARY MATHEMATICS 11 3 credits
Sentences in one variable and systems of sentences in two variables. Metric and nonmetric geometry, introduction to coordinate geometry. Introduction to statistics. PREREQUISITE: MM 120.

Offered Fall and Spring Semester

MM 122-FINITE MATHEMATICS 1 3 credits
Sets, functions and relations, logic, linear programming, analytical geometry, probability and non-linear curves. PREREQUISITE: High School algebra or Math MM 093

Offered Fall & Spring Semester

MM 135-MATHEMATICS OF RADIOLOGY 3 credits
This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It is also the basis of the math needed for nuclear medicine and radiation therapy and is also taken by these students.

MM 137-INDEPENDENT STUDY OF MATHEMATICS 1,2,3, or 4 crs.

Independent study of special topics in mathematics under the direction of an instructor. PREREQUISITE: Permission of the Department Chairperson.

Offered Fall & Spring Semester

MM 140-STATISTICS & QUALITY CONTROL 4 credits
An introduction to basic statistics. Construction and use of control charts, the use of sampling plans and related topics. The organization of a quality control department is considered with emphasis on the function of its components. PREREQUISITE: Mathematics MM 107

Offered Fall & Spring Semester

MM 142-STATISTICS 1 3 credits
Description methods of categorical and numerical data: central tendency and deviation. Probability: binomial distribution, normal distribution. Bayes theorem. Sampling. Normal Distribution of Sample Means. PREREQUISITE: Math MM 103 or Finite Math 1 MM 122.

Offered Fall & Spring Semester

MM 150 PRE-CALCULUS 1 4 credits
This course is designed to provide the intensive preparation necessary for students who intend to enroll in the engineering calculus sequence of courses. Topics include sets, real numbers, order, absolute value, functions, rational function, inverse functions, systems of equations, determinants, and analytic geometry of the straight line and conic sections. Three hours of lecture and one three-hour problem session. PREREQUISITES: Math MM 090 - MM 093 or its equivalent.

Offered Fall Semester

MM 151, MM 454 MATHEMATICS 1,2,3,and 4
The sequence of four 4-credit courses in Calculus are appropriate for students transferring to four-year colleges who intend to major in the sciences, engineering, or mathematics. Although each course carries 4 credits, it is possible in certain circumstances for a student to earn partial credit for successful completion of fewer than 4 credits.

MM 151-MATHEMATICS 1 credit
The Cartesian plane and analytic geometry of the straight line and circle. Functions and functional expressions. PREREQUISITES: Mathematics MM 107 or its equivalent.

Offered Fall Semester

MM 152-MATHEMATICS 1 credit
Limits, continuity and the derivatives of algebraic functions. Chain rule and implicit differentiation. PREREQUISITE: Mathematics MM 151 or its equivalent.

Offered Fall Semester

MM 153-MATHEMATICS 1 credit
Applications of the derivative to curve sketching. Maxima/minima theory and related rates. The differential and differential approximation. PREREQUISITE: Mathematics MM 152 or its equivalent.

Offered Fall Semester

MM 154-MATHEMATICS 1 credit
Indefinite and definite integration. Fundamental theorem of calculus. Introduction to separable differential equations, rectilinear motion problems, work and fluid pressure. Computations of plane areas using summation notation and its equivalent. PREREQUISITE: Mathematics MM 153 or its equivalent.

Offered Fall Semester

MM 222-FINITE MATHEMATICS 2 3 credits
Differential and integral calculus, vectors and matrices, Markov Chains. PREREQUISITE: Finite Math 1 MM 122.

Offered Fall & Spring Semester

MM 231-ENGINEERING COMPUTATIONS 1 credit
The purpose of this course is to provide instruction in the use of hand-held calculators so that students are able to use the full potential of their calculators. Students will be required to solve problems designed to make full use of all the keyboard functions available. Scientific notation will be stressed whenever appropriate. Worksheets and other auto-tutorial materials will be provided to assist the student.

PREREQUISITE: MM 081 - MM 083

Offered Fall & Spring Semester

MM 237-INDEPENDENT STUDY OF MATHEMATICS 1,2,3, or 4 crs.
Continuation of MM 137. PREREQUISITE: MM137 permission of the Department Chairperson.

Offered Fall & Spring Semester

MM 242-STATISTICS 2 3 credits
Following the pattern of MM 242, the student will continue with samples to estimate population characteristics; hypothesis testing, confidence intervals, t-distribution. Approximate tests; Chi-square distribution multinomial data. Regression and correlation. PREREQUISITES: MM 142, Statistics 1.

Offered Fall Semester

MM 250 PRE-CALCULUS 2 4 credits
A continuation of Pre-Calculus 1 with an emphasis on the transcendental functions. Topics include the exponential and logarithmic functions, finite sums and series, trigonometric functions, trigonometric equations, trigonometric identities, triangle trigonometry, vectors in the plane, the algebra of complex numbers, and polar coordinates. Three hours of lecture and one three-hour problem session.
PREREQUISITE: Pre-Calculus 1.

MM 251-MATHEMATICS 1 credit
Vectors; conic sections, geometrical interpretation of limits, continuity and derivatives.
PREREQUISITE: Mathematics MM 154 or its equivalent.
Offered Spring Semester

MM 252-MATHEMATICS 1 credit
Differentiation and integration of trigonometric, inverse trigonometric, logarithmic, exponential, hyperbolic, and inverse hyperbolic functions. PREREQUISITE: Mathematics MM 251 or its equivalent.
Offered Spring Semester

MM 253-MATHEMATICS 1 credit
Parametric equations; polar coordinates; techniques of integration: substitution, trigonometric integrals, trigonometric substitutions, integration using partial fractions, use of integral tables. PREREQUISITE: Mathematics MM 252 or its equivalent.
Offered Spring Semester

MM 254-MATHEMATICS 1 credit
Applications of the integral: volumes of solids of revolutions; surfaces of revolution; centroids of plane regions, solids of revolution, areas and surfaces; moments of inertia. PREREQUISITE: Mathematics MM 253 or its equivalent.
Offered Spring Semester

MM 351-MATHEMATICS 1 credit
Indeterminant forms: L' Hospital's Rule. Elements of Infinite Series. Convergent and divergent series; Taylor's series; algebraic operations with series; differentiation and integration of series. PREREQUISITE: Mathematics MM 254 or its equivalent.
Offered Fall Semester

MM 352-MATHEMATICS 1 credit
Introduction to solid analytic geometry using vector methods. Vector and scalar products; equations of lines and planes; quadratic surfaces. PREREQUISITE: Mathematics MM 351 or its equivalent.
Offered Fall Semester

MM 353-MATHEMATICS 1 credit
Partial differentiation. Implicit differentiation; chain rule and applications; directional derivatives (gradient); total differential and applications; maxima and minima; exact differentials; line integrals; work. PREREQUISITE: MM 352 or its equivalent.
Offered Fall Semester

MM 354-MATHEMATICS 1 credit
Multiple integration. Double integration; area and physical applications of double integration; evaluation of double integration by polar coordinates; triple integration; volume; physical applications of triple integration; surface area; introduction to vector calculus. PREREQUISITE: Math MM 353 or its equivalent.
Offered Fall Semester

MM 439-LINEAR ALGEBRA 3 credits
Geometric vectors; vector spaces; systems of linear equations; inner product spaces; linear transformations and matrices; determinants; Eigenvalues and Eigenvectors isometrics; linear and bilinear forms. Corequisite: Calculus 3 MM 358. PREREQUISITE: Calculus 2 MM258
Offered Spring Semester

MM 451-MATHEMATICS 1 credit
This module begins a study of the nomenclature and techniques necessary for solving ordinary differential equations. The standard classical procedures for solving most linear and non-linear first order differential equations are developed. These include separation of variables, homogenous co-efficient approach, exact differential equations, integrating factors technique, and Bernoulli's Equation among others. PREREQUISITE: Math MM 354 or its equivalent.
Offered Spring Semester

MM 452-MATHEMATICS 1 credit
A study of linear higher order ordinary differential equations is emphasized in this module. The differential operator technique is developed for the solution of homogenous differential equations with constant co-efficients. The method of the undetermined co-efficients, D'Alembert's reduction of order technique, and the variation of Parameter's method is presented for solving non-homogenous differential equations. PREREQUISITE: Mathematics MM 451 or its equivalent.
Offered Spring Semester

MM 453-MATHEMATICS 1 credit
The Laplace transform is defined, and its technique for solving linear ordinary differential equations is developed in this module. The gamma, Pulse, and impulse functions are presented and used as forcing functions in the Laplace Transform solution of numerous differential equations. PREREQUISITE: Mathematics MM 452 or its equivalent.
Offered Spring Semester

MM 454-MATHEMATICS 1 credit
An introduction to the solution of systems of linear differential equations with constant co-efficients. Matrix methods for both homogenous and non-homogenous systems are developed. The Laplace Transform technique is applied primarily to systems with sectionally continuous forcing functions. This module also reviews the concept of a power series and develops the power series technique for solving linear ordinary differential equations. The method Frobenius is used for solving equations with regular singular points. Bessel functions and Bessel's differential equation, and Legendre polynomials and Legendre's differential equation are discussed. PREREQUISITE: Mathematics MM 453 or its equivalent.
Offered Spring Semester

PHYSICS

The Physics Department offers a variety of courses ranging from the most basic laboratory science at the college to very advanced engineering/physics major introductory courses. Available to the student is the physics option, a program which prepares for the baccalaureate level or pre-professional school major. The courses available have been divided into five general categories to facilitate selection.

MP 090-BASIC SCIENCE 1 (I.P.S.) 4 credits
Introduction to experimental chemistry, using very frequent experiments and simple arithmetic. Emphasis on development of the student's confidence, initiative and self-reliance. Topics treated are: measures; characteristic properties; separation; decomposition and synthesis; constant proportions, atoms and molecules. PREREQUISITE: None. The course serves as preparation for other college chemistry courses and is suitable for students who have taken no previous science.

Offered Fall & Spring Semester

MP 092-BASIC SCIENCE 2 (I.P.S.) 4 credits
Introduction to experimental physics, through energy and its measurement in the form of electricity, heat, motion and radiation. Emphasis on development of the student's confidence, initiative and self-reliance. The course meets two hours three days per week in an integrated laboratory/lecture format. PREREQUISITE: Advised is MP 090. However, this course serves as preparation for other science courses and is suitable for students with no previous science.

Offered Spring Semester

MP 103-INTRODUCTION TO ASTRONOMY 1 4 credits
General survey course tracing the development of man's conception of the universe and his place in it. Emphasis on recent developments in planetary science and astronomical instruments. Evening laboratories include Fall constellation identification, use of telescopes to observe the moon, planets, and other heavenly objects. Observational class project. Some classes will include use of the Springfield Science Museum Planetarium and Observatory. Field trip to local professional observatory. Evening laboratory. PREREQUISITE: MM 073.

Offered Fall Semester

MP 119-PHYSICS 1 4 credits
A course primarily on mechanics. Frequent experimentation and problem-solving to introduce the student to systems of measurement, accelerated motion, force, kinetic and potential energy, momentum, composition and resolution of forces and statics. Also, heat energy and its conservation. Use of computer console for problem solving. Format for course is two 2-hour lecture-experiment sessions and a one hour problem-solving period. PREREQUISITE: MM 101

Offered Fall & Spring Semester

MP 120-PHYSICS 2 4 credits

A course on mechanics, energy, electricity, magnetism and light. Lectures, demonstrations, problem assignments and laboratory work carried on in the areas of: motion, energy conservation, electromagnetic induction, EM radiation and optics. Three hour laboratory.

PREREQUISITE: MM 101

Offered Fall Semester

MP 130-PHYSIC 11 4 credits

A non-calculus, university level physics course for liberal arts transfer students or students in the area of pre-med., pre-dental, pre-vet., or the life sciences. Topics include motion, mass, force, conservation laws, momentum, gravitation, work, energy, and heat. The problems and laboratory are designed with biological applications. There is a three hour laboratory per week. PREREQUISITE: MM 093.

Offered Fall Semester

MP 132-PHYSICS 21 5 credits

Rigorous introductory course covering mechanics, statics, conservation of energy and momentum, conservation of angular momentum, heat and simple harmonic motion. Three hour laboratory.

PREREQUISITE: MM 154.

Offered Spring Semester

MP 203-INTRODUCTION TO ASTRONOMY 2 4 credits

A continuation of MP 103 but may be taken independently. Emphasis on stellar evolution, black holes, expanding universe, and quasars. Evening laboratories include Spring constellation identification, use of telescopes to observe deep space objects. Some classes will include use of the Springfield Science Museum Planetarium and Observatory. Observational class project. Field trip to local professional observatory. Evening Laboratory.

PREREQUISITE: MM 073 Offered Spring Semester

MP 230-PHYSICS 12 4 credits

A non-calculus, university level physics course for liberal arts transfer students or students in the area of pre-med., pre-dental, pre-vet., or the life sciences. Topics include electrostatics, basic electronics, solid state, circuit analysis, alternating current, optics, construction of the nucleus, radioactivity, and bohr model. Three hour laboratory.

PREREQUISITE: MM 093.

Offered Spring Semester

MP 232-PHYSICS 22 5 credits

Continuation of MP 132. Topics include: electrostatics, Coulomb's Law, Gauss's Law, Kirchhoff's Laws, magnetostatics, Ampere's Law, Faraday's Law and Lenz's Law. Demands command of calculus, vector algebra, and vector analysis.

PREREQUISITE: MP 132 and MM 254

Offered Fall Semester

MP 332-PHYSICS 23 5 credits
Continuation of MP 232. Topics include: Maxell's equations, electromagnetic waves, oscillators, physical and geometical optics (including matrix approach to optics); concepts of special relativity; Bohr model of the atom, introduction to Schrodinger equation, wavefunctions and probability amplitudes. Three hour laboratory. **PREREQUISITE:** MP 232 and MM 354
Offered Spring Semester

MEDICAL PHYSICS COURSES - Transfer as science for non-science majors

MP 141-NUCLEAR PHYSICS 1 4 credits
Approximately half of the semester is devoted to understanding nuclear properties of the atom. Energy levels are described according to the quantum mechanical theory. Unstable nuclei and radiation processes are detailed: alpha, beta, positron, gamma, IC and related to the chart of the nuclides, to linear energy transfer, and subsequently to radiobiological response. The remaining time is used to present the mathematics underlying radioactive decay, half-value layer, radioactive equilibria, and the statistics of the Poisson and normal curve. The mathematics of target theory and the resulting curves are explained. Three hour laboratory. **PREREQUISITE:** MM 093. **REQUIRED** for students in departments AY & AZ. Open to others by permission of instructor. Offered Spring Semester

MP 145-RADIOLOGIC PHYSICS 1 4 credits
Topics covered are: basic mechanics, mass, force, energy, work, momentum, and SI units. Electrostatics, magnetism and basic electronics, are covered with laboratory application in Radiobiology. Special topics are: the nature of the photon, ionizing radiation, and the interaction of ionizing radiation with matter via scattering, Photoelectric Effect, Compton Effect, and Pair Production. Radiation attenuation and absorption coefficients are covered in detail. The solid state electronics of radiation detection equipment is covered in theory and then detailed in the laboratory. **PREREQUISITE:** MM 093 Offered Fall Semester
Three hour laboratory. **REQUIRED** of students in departments AX, AY, AZ. Open to other by permission of instructor.

MP 146-RADIATION PROTECTION 1 credit
The nature of ionizing radiation and its biological effect on the human are discussed. The NRC and Commonwealth rules and regulations relating to radiation protection and monitoring of personnel and patient are presented to the level where the student understands risk versus benefit of medical radiation. Radiation detection equipment and instrumentation are presented so that the student knows applicable radiation detection devices for clinical and emergency situations. The human radiobiological response is covered. **PREREQUISITE:** MM 093 Offered Summer Semester
REQUIRED of students in departments AX, AY, AZ. Open to others by permission.

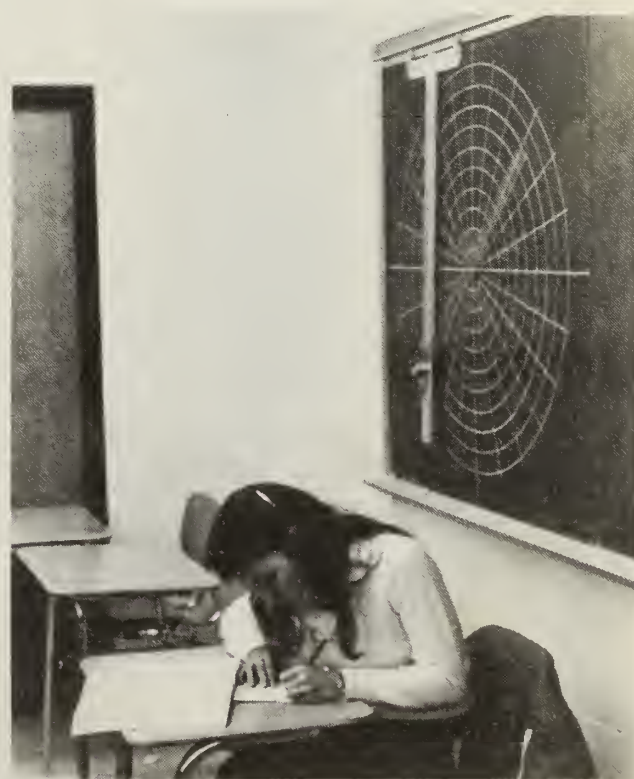
MP 245-RADIOLOGIC PHYSICS 2 4 credits
Expansion of mathematics and topics from MP145. Also Included are chemistry of darkroom chemical reaction, calibration of diagnostic Xray equipment, radionuclides in clinical use, physics of xeroradiograph, detailed discussion of x-ray machines and x-ray production. Three hour laboratory. **REQUIRED** of students in department AX. Open to others by permission. **PREREQUISITE:** MM 093 Offered Spring Semester

MP 345-RADIOLOGIC PHYSICS 3 3 credits
Non-mathematical review of the physical principles underlying Radiologic Technology featuring topics from MP 145 and MP 245. **Required** of the AS degree in Radiologic Technology. **PREREQUISITE:** Degree candidate in RT.
Offered as Independent Study Spring/Fall/Summer

INDEPENDENT STUDY GROUP - transferability depends on accepting institution.

MP 150-INDEPENDENT STUDY PHYSICS 1 1,2,3,or 4 credits
Independent study or laboratory project in physics under direction of instructor. Student may propose project or elect to undertake a project of instructor's choice. **PREREQUISITE:** Permission of instructor.
Offered Fall/Spring/Summer Semester

MP 250-INDEPENDENT STUDY PHYSICS 2 1,2,3, or 4 credits
A continuation of MP 150
PREREQUISITE: Permission of Instructor.
Offered Fall/Spring/Summer Semester



General Index



MASSACHUSETTS BOARD OF REGENTS OF HIGHER EDUCATION

James R. Martin, Chairman
Chairman, Massachusetts Mutual Life Insurance Co.
Springfield

David J. Beaubien
EG&G, Inc.
Wellesley

Robert Cushman
Chairman of the Board, Norton Company
Worcester

Sister Janet Elsner, SND
President, Emmanuel College
Boston

George H. Ellison
The Ellison Agency
Boston

Arnold S. Friedman, Editor
Springfield Morning Union and Sunday Republican
Springfield

Honorable Foster Furcolo
U.S. Administrative Law Judge
Boston

Dr. George W. Hazzard
Retired President of Worcester Polytechnic Institute

Francis J. Nicholson, S.J.
Boston College Law School
Newton

David S. Paresky
President and Chairman of the Board
Crimson Travel Service
Cambridge

Elizabeth B. Rawlins
Associate Dean/Assistant Professor in
Education, Simmons College
Boston

Dr. Charles A. Sanders, General Director
Massachusetts General Hospital
Boston

Ray Stata, President and Chairman of the Board
Analog Devices, Inc.
Norwood

Dr. An Wang, President and Chairman of the
Board, Wang Laboratories, Inc.
Lowell

Norman Zalkind
Coordinator, Office of Economic Development,
City of Fall River
Fall River

MASSACHUSETTS BOARD OF REGIONAL COMMUNITY COLLEGES

John F. Bradshaw of Newburyport
Chairman

Gregory Anrig of Needham Ex-officio,
Commissioner of Education

Muriel Camarra of West Boylston

Laura B. Clausen of Weston, Ex-officio,
Chancellor, Board of Higher Education

John S. Davagian II of Concord

Stephen S. Drake of Springfield

Sister Janet Elsner of Boston

Charles C.D. Hamilton of Newton

John T. Hickey of Holyoke

Errol Y. Jacobsen of Concord

David C. Knapp of Newton, Ex-officio,
President, University of Massachusetts

Francis J. Pilecki of Westfield, Ex-officio,
President, Westfield State College

O. Robert Simha of Cambridge

Alan Sinclair of Somerset

Fred T. Thompson of Williamstown

Donald Walker of North Dartmouth, Ex-officio,
President, Southeastern Massachusetts University

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE ADVISORY BOARD

Joseph J. Delliso Sr. of Longmeadow
Chairman

Rodolfo Altobelli of Agawam
Secretary

Leo E. Beaulieu of Chicopee

Joseph J. Cooligan of Springfield
Vice Chairman

Rev. Miles Crawford Jr. of Springfield

Joseph J. Dunn of Springfield

Louis V. Fusaro, Jr. of Longmeadow

Mary T. Kelleher of Springfield

Jeremiah P. McCarthy of Wilbraham

Jane E. Membrino of Chicopee
Vice Chairman

Teresina B. Thompson of Longmeadow
Ex-officio

DIRECTORY FOR INFORMATION

TITLE	NAME	LOCATION	TELEPHONE EXTENSION
President	Robert C. Gelitz	16/233	3841
Dean of Academic Affairs	John H. Dunn	16/223	3845
Dean of Students	John A. Stefferud	16/128	3454
Assistant Dean of Students	William M. Manz	16/127	3883
Dean of Administration	William A. Baker	16/205	3802
Asst. Dean of Administration	Katharine T. Reichert	16/203	3806
Dean of Continuing Education	J. Edward Smith	15/SSC	3863
Assoc. Dean of Continuing Educ.	Teresa A. Burr	15/SSC	3867
Assistant to the President	James J. Dowd	16/247	3819
Affirmative Action Officer	Mary Breeding	15/SCC	3829
Librarian	Tamson Ely (LOA 80-81)	27/201	3484
Acting Director of Library Services	Nancy McAuliffe	27/204	3486
Reference Librarian	Barbara Wurtzel	27/201	3485
Registrar	Athena Verros	15/SSC	3857
Divisional Chairpersons			
Business Administration	Donald Bready	17/217	3324
General Studies Program	Antoinette L. Burgess	16/143	3480
Health/Human Services	Mary E. O'Leary	20/202	3609
Humanities	Jewel Rentzschke	13/104	3655
Liberal Arts Transfer	Virginia B. Kerr	17/329	3352
Math, Sciences & Engineering	Jack Barocas	17/315	3322
Nursing	Eileen Neville	20/303	3505
Social Sciences	Carol A. Roberts	17/327	3351
Technologies	John T. Donohue	20/121	3501
All College Council President	Donald Bready	17/217	3324
Student Government President	James Whitman	16/SAO	3828
Directors			
Admissions	Raymond DiPasquale	8	3855
Asst. Director of Admissions	Myra Smith	8	3776
Bilingual Services	Betty Szlajen	27/101K	3482
Computer Services	Thomas F. Tetlow	17/325	3350
Financial Aid	Joel Friedman	15/SSC	3813
Instructional Media Prod. Ctr.	Vincent Yacovone	13/314	3715
Personnel	Edward R. Maclosky	16/245	3833
Placement	Charles B. Zumwalt	8	3823
Public Relations	Gail A. Pederzoli	16/285	3462
Special Projects	Beverley Earle	16/231	3877
Special Services-Disadvantaged	Betty Szlajen	27/101K	3482
Student Activities	Paul Simon	16/SAO	3828
Veterans' Affairs	David Sarrette	15/SSC	3879
Counselors			
Career	Kent A. Goodchild	16/111	3816
College Transfer	John A. D'Orazio	16/107	3822
Financial Aid	Mary Forni	15/SSC	3817
	Marilyn Sutin	15/SSC	3817
Gerontology	Doris Cummings-Ford	20/416	3545
Handicapped	Camille Petracca	16/109	3827
Special Services	Alexander Carter	27/101	3481
Superintendent-Bldgs. & Grounds	Albert Desautels	16/203	3301
Chief of Security	Philip LaBranche	27/197	3800
School Nurse	Joan A. Richers	27/101	3510
Grants Coordinator	Gail Carberry	16/273	3842
Title IX Coordinator	Mary Breeding	15/SSC	3829
College Publications	Setta McCabe	8	3830
Individualized Learning Ctr. Coord.	Richard Riga	17/423	3374
Administrative Assistant (DCE)	Felicita Mazzuchelli	15/SSC	3867
Staff Associate			
Institutional Research	Cheryl A. Baraldi	16/259	3832
Staff Assistants			
President's Office	Alicia Wilk	16/262	3861
Data Processing Services	Mark F. Curto	17/323	3377
Data Processing Services	Ann Pandolfi	17/319	3377
Radio Station WTCC-FM			
Director/Manager	Francis P. Dillon	16/255	3831
Assistant Manager	Richard Hallaran	16/265	3456
Assistant Manager	Eric Reid	16/265	3456
Program Coordinators			
Advanced Metal Machining	Otto Paradzick	28/204	3752
American Studies	John H. Connell	17/311	3334
Art	Edith M. Bugbee	28/211	3754
Automotive Technology	Richard D. Cormier	25/101	3757
Biological Sciences	James M. Curran	20/215	3513

<u>TITLE</u>	<u>NAME</u>	<u>LOCATION</u>	<u>EXTENSION</u>
Program Coordinators	Otto Paradzick	28/204	3752
Advanced Metal Machining	John H. Connell	17/311	3334
American Studies	Edith M. Bugbee	28/211	3754
Art	Richard D. Cormier	25/101	3757
Automotive Technology	James M. Curran	20/215	3513
Biological Sciences	Kenneth C. Dupont	20/522	3508
Bio-Medical Technology	John J. Godfrey	17/209	3326
Business Administration	Kenneth W. Rillings	17/301	3330
Chemistry	John R. Warner	17/302	3380
Civil Engineering Technology	Gary J. Mullett	17/241	3435
Computer Maintenance Technology	Sophie L. Drost	20/427	3514
Cosmetology	Beverly McCarthy	20/405	3543
Court Stenography	Alfred C. St. Onge	17/245	3329
Data Processing	Carol McCarthy	20/202	3633
Dental Assisting	Denise Ryan	20/240	3504
Dental Hygiene	Judith Mish	13/117	3664
Developmental English	Otto Paradzick	28/204	3752
Drafting & Design Technology	Sally D. Curtis	13/304	3658
Early Childhood Education	Leon J. Friedman	17/237	3347
Economics	John T. Donohue	20/121	3501
Electrical Technology	Otto Paradzick	28/204	3752
Electro-Mechanical Technology	Gary J. Mullett	17/241	3435
Electronic Benchwork Tech.	Gary J. Mullett	17/241	3435
Electronic Technology	Ivan R. Desrosiers	20/207	3502
Emergency Medical Technician	William R. White	17/309	3333
Engineering & Science Transfer	Joseph F. Ross	13/111	3651
English	William C. Galtenby	13/113	3657
Environmental Technology	William C. Galtenby	13/113	3657
Facilities Maintenance Engr.	Albert W. Valentine	20/518	3527
Fire Protection & Safety Tech.	Thomas E. Holland	13/310	3678
Foreign Languages	Antoinette L. Burgess	16/143	3480
General Studies	Florence L. Eaton	20/420	3525
Gerontology	H. Estelle Amlon	14/101	3766
Graphic Arts Technology	William C. Galtenby	13/113	3657
Heating/Power/Air Cond. Tech.	Thomas J. Boyle	17/335	3355
History	Mary K. Bennett	20/352	3520
Human Services Associate	Paul Barufaldi	20/520	3553
Instrumentation Technology	H. Alan Crowe	17/318	3357
Landscape/Plant Science Tech.	Gary J. Mullett	17/241	3435
Laser Electro-Optics Tech.	Bert G. Scannapleco	17/225	3325
Law Enforcement/Criminal Justice	Virginia B. Kerr	17/329	3352
Liberal Arts Transfer	Otto Paradzick	28/204	3752
Machine Design Technology	Robert Yawin	17/303	3331
Mathematics	Otto Paradzick	28/204	3752
Mechanical Technology	Mary Ellen Harbeck	20/332	3517
Medical Assistant	Mary C. Griffin (Sr.)	20/350	3516
Medical Laboratory Technician	Thomas J. Boyle	17/335	3355
Modern Studies	Anne T. Lemieux	13/115	3663
Music	Margaret E. McCarthy	17/341	3358
Nuclear Medicine Technician	Eileen Neville	20/303	3505
Nursing	Mary E. O'Leary	20/202	3609
Nursing for RN's	Mary E. O'Leary	20/202	3609
Nursing for LPN's	Albert W. Valentine	20/518	3527
Occupational Safety, Health Adm.	Cherry Michelman	17/227	3342
Philosophy	Lucille B. Hood	20/318	3518
Physical Therapist Assistant	Cherry Michelman	17/227	3342
Political Science	John H. Connell	17/311	3334
Physics	Louis A. Gentile	17/231	3344
Psychology	John J. Godfrey	17/209	3326
Public Administration	Margaret E. McCarthy	17/341	3358
Radiation Therapy	Gordon Smith	20/333	3529
Radiologic Technology	George Ponte	20/422	3526
Respiratory Therapy	Beverly McCarthy	20/405	3543
Secretarial/Office Careers	Mary J. Pi-Sunyer	17/227	3343
Sociology/Anthropology	William C. Galtenby	13/113	3657
Solar Energy	Rita F. LaBrecque	20/344	3521
Surgical Technology	Nathan L. Rutstein	13/323	3653
Telecommunications Technology	Beverly McCarthy	20/405	3543
Word Processing Management			

GENERAL INDEX

Academic Calendar	2-3	Health/Human Services Programs	29
Academic Honesty	16	Heat/Power/Air Conditioning Technology Program	113
Academic Information	14	HELP Loans	13
Academic Programs	26	History of the College	5
Academic Year	14	History Courses	139
Academic Standing	14	Honor Society	16
Accounting Courses	59	Human Services Associate Program	38
Accounting Program	56	Humanities Courses	132
Accreditation	6	Individual Learning Center-Mathematics	26
Administrative Bookkeeping Program	58	Insurance	11, 23
Admissions	7	Interviews (Admissions)	7
Advanced Metals Machining Technology Program	88	Instrumentation Technology Program	116
Afro-American Resource Center	22	Landscape/Plant Science Technology Program	118
American Studies Program	78	Laser Electro-Optics Technology Program	120
Application Procedure (Admissions)	7	Law Courses - Business	62
Application Procedure (Financial Aid)	13	Law Enforcement/Criminal Justice Program	84
Art Courses	133	LEEP Program Funds	13
Associate Degree In Nursing for Reg. Nurses Program	45	Legal Secretarial Program	71
Athletics	22	Legal Secretarial Program (Word Processing Option)	71
Auditing of Classes	16	Liberal Arts and Sciences Programs	78
Automotive Technology Program	90	Liberal Arts Transfer Program	86
Awards	23	Library	20-21
Basic Educational Opportunity Grants	13	Machine Design Technology Program	122
Bilingual Secretarial Program	69	Make-Up Examinations	15
Bilingual Secretarial Program (Word Processing Option)	69	Management Courses	62
Biology Courses	145	Management Program	56
Biology Option Program	128	Marketing Courses	65
Bio-Medical Instrumentation Technology Program	92	Marketing Program	57
Board of Higher Education Scholarship	13	Mathematics and Natural Science Courses	142
Books and Supplies	11	Mathematics Courses	148
Bookstore	23	Mathematics Option Program	129
Business Administration Programs	54	Medical & Emergency Health Services	23
Business Administration: A.A. in Liberal Arts/ General Studies	57	Medical Assistant Program	40
Campus Map	Inside Back Cover	Medical Laboratory Technician Program	41
Career Center	21	Medical Secretarial Program	72
Career Programs	26	Medical Secretarial Program (Word Processing Option)	72
Career-Related Job Program	26	Mid-Semester Grades	16
Career Services	20	Modern Studies Program	78
Challenge Examinations	7	Music Courses	137
Chemistry Courses	147	National Direct Student Loans	13
Chemistry Option Program	129	Nuclear Medicine Technician Program	42
Civil Engineering Technology Program	94	Nursing Program	44
Class Attendance	15	Nursing Student Loan Program	13
Class Schedule	15	Nursing Scholarship Program	13
CLEP Examinations	7	Objectives of the College	5
Clerical Office Assistant Program	70	Occupational Safety & Health Technology Program	124
Code of Conduct	19	Off-Campus Residence	19
Commonwealth Transfer Compact	24	Office Systems/Secretarial Sciences	69
Computer Maintenance Technology Program	96	Office Systems/Secretarial Sciences Courses	72
Confidentiality of Student Records	19	Out-of-State Student Information	8
Cosmetology Program	30	Parking	23
Course Changes	15	Parking Fee	11
Courses of Study	26	Payment of Bills	11
Course Withdrawal	16	Philosophy Courses	137
Court Stenography Program	70	Philosophy of the College	5
Curricula of the College	27	Physical Therapist Assistant Program	46
Data Processing Technology Programs	67	Physics Courses	152
Dean's List	16	Physics Option Program	129
Dental Assisting Program	31	Placement Service	21
Dental Hygiene Program	33	Placement Testing	8
Desiderata	1	Political Science/Government Courses	141
Determination of Resident Status	12	Pre-Dental Option Program	130
Division of Continuing Education	25	Pra-Medical Option Program	130
Drafting and Design Technology Program	97	Pra-Medical Option Program	130
Early Childhood Education Program	79	Prerequisites for Admission	9-10
Economics Courses	139	President's List	16
Electrical Technology Program	98	President's Message	4
Electro-Mechanical Technology Program	100	Pre-Veterinary Option Program	130
Electronic Benchwork Technology Program	101	Private Organization Scholarships	13
Electronic Technology Program	103	Program Changes	15
Emergency Medical Technician Program	35	Psychology and Education Courses	140
Engineering and Science Transfer Programs	127	Radiation Therapy Program	47
Engineering Transfer Programs	128	Radiologic Technology Program	49
Engineering Science Courses	143	Re-admission	7
Engineering Technologies Programs	87	Registration	15
Engineering Transfer/Technology Core Program	130	Repetition of Courses	16
English Courses	134	Respiratory Therapy Program	51
Environmental Technology Program	105	Small Business Management Program	58
Examinations and Grades	15	Social Science Courses	138
Executive Secretarial Program	70	Sociology/Anthropology Courses	140
Executive Secretarial Program (Word Processing Option)	71	Solar Energy Option Program	115
Facilities Maintenance Engineering Tech. Program	107	Special Student Services Program	20
Finance Courses	61	Statistics Courses - Business	66
Finance Program	56	Student Activities	23
Financial Aid	13	Student Activity Fee	11
Fire Protection and Safety Technology Program	109	Student Grievance Procedure	17-18
Foreign Language Courses	136	Student Information	17
Foreign Student Information	8, 11	Student Information Post	22
General Business Program	56	Students' Rights and Responsibilities	17
General Index	154	Summary of Tuition and Fees	12
General Information	5	Supplemental Educational Opportunity Grants	13
General Studies Program	81	Surgical Technology Program	53
Gerontology Program	36	Telecommunications Technology Program	125
Goals of the College	5	Transfer Into STCC	7
Grading Policy	15	Transfer Programs	26
Graduation Fee	11	Tuition and Fees	11
Graduation Requirements	14	Tuition Refunds	11
Graphic Arts Technology Program	111	Tutorial Assistance Program	20
		Veterans' Information	11, 28
		Word Processing Management Program	72
		Work-Study Program	13

FACULTY AND ADMINISTRATIVE DIRECTORY

- Abbott, Hilton M., B.S., University of Vermont; M.S., Eastern Michigan University, Physics
- * Amidon, H. Estelle, Forms Analyst, Cert., Graphic Arts
- Andrew, Kathleen, B.A., Trinity College; M.A., Boston College, Developmental English
- Angers, Homer R., B.S., Westfield State College, Automotive Technology
- Baker, William, B.S., Boston College; M.S.L.S., University of Massachusetts, Dean of Administration
- Baraldi, Cheryl, B.A., University of Massachusetts, Assistant to the President
- Barbieri, Joseph, A.S., Springfield Technical Community College; B.S., Westfield State College, Physics and Engineering Technical Assistant
- Barocas, Jack, B.S., Brooklyn College; M.S., University of Massachusetts, Ph.D., University of Massachusetts, Chairman, Division of Math, Science & Engineering Transfer
- Barry, Daniel P., B.S., University of Massachusetts; M.Ed., University of Massachusetts, Landscape/Plant Science Technology
- Barry, Helen G., R.N., Mercy Hospital School of Nursing; B.S., Boston College; M.A., American International College, Medical Assistant
- Bartlett, Faye-Marie, R.N., Mercy Hospital School of Nursing; B.S.N.Ed., University of Rochester, Nursing
- Barton, Allan B., B.S., University of Minnesota; M.S., University of Connecticut, Electro-Mechanical Technology
- * Barufaldi, Paul, B.A., American International College, Instrumentation Technology
- Belton, Linda, B.S., American International College, Office Systems/Secretarial Sciences
- * Bennett, Mary K., R.N., Springfield Hospital School of Nursing; B.A., Our Lady of the Elms College; M.S., Springfield College, Human Services Associate
- Blalas, Anthony J., A.S., Morton Junior College; B.A., Northern Illinois University; M.A., Northern Illinois University, English
- Bouchard, Victor, B.S.M.E., Western New England College; M.B.A., Western New England College, Data Processing Technology
- * Boyle, Thomas J., B.S. Holy Cross College; M.A., American International College; M.A., University of Massachusetts; Ph.D., University of Connecticut, History
- Bready, Donald, B.B.A., University of Massachusetts; J.D., Western New England College; L.L.M., Boston University, Chairman, Division of Business Administration
- Breeding, Mary, M., B.S. University of Florida; M.S. Virginia Commonwealth University; Staff Associate/Affirmative Action Officer/IX Coordinator
- * Bugbee, Edith M., B.F.A., University of Massachusetts; M.A.T., University of Massachusetts, Art
- Bugbee, E. John, B.A., American International College; M.A., American International College, Chemistry
- Bujak, Robert J., A.S., Springfield Technical Community College; B.S., Central Connecticut State College, Heat/Power/Air Conditioning Technology
- Burgess, Antoinette, B.S., Fordham University; M.A., University of Massachusetts; Cert., University of Toulouse & Bordeaux; Coordinator, Liberal Arts/General Studies; Foreign Languages
- Burke, Elizabeth H., M.S. University of Massachusetts, Physical Therapist Assistant
- Burr, Teresa, B.S., Springfield College; M.Ed., Springfield College, Associate Dean of Continuing Education, Community Services
- Carberry, Gail, B.S.E.D., State College at Worcester, Coordinator, Grants Accounting
- Carey, Walter, B.S., University of Massachusetts; M.S., University of Massachusetts; Ph.D., University of Massachusetts, Biological Science
- Carter, Alexander, B.S., American International College, Counselor, Special Services
- Cassidy, Eileen C., B.S., American International College; M.A., American International College, Office Systems/Secretarial Sciences
- Chaban, Michael, B.S.M.E., Western New England College, Machine Design Technology
- Collamore, Leonard, B.S.Ed., Westfield State College; M.Ed., Springfield College, History
- * Connell, John H., B.S., Massachusetts Institute of Technology; Ph.D., University of Washington, Physics
- Corey, Arthur, B.S., Rensselaer Polytechnic Institute; M.S., University of Rhode Island, Electronics Technology
- * Cormier, Richard D., A.S. Franklin Technical Institute; B.S., Westfield State College, Automotive Technology
- Costantini, Daniele, A.S. Springfield Technical Community College, Math & Science Technical Assistant
- Courtney, Daniel, A.S., Springfield Technical Community College, Electronic Technology
- Croteau, Yolande S., B.S., American International College; M.A., American International College, Business Administration
- * Crowe, H. Alan, B.S., University of Massachusetts; M. Ed., Westfield State College, Landscape/Plant Science Technology
- * Curran, James M., B.A., American International College; M.Ed., University of Vermont, Biological Science
- * Curtis, Sally D., A.B., Union College; M.Ed., University of Hartford, Early Childhood Education
- Curto, Mark, A.S., Springfield Technical Community College, Staff Assistant, Data Processing Services
- Davis, Jane T., B.S.N., American International College; M.A., Mount Holyoke College, English
- Delaney, Mary G., B.S.N., Boston College, M.Ed., Westfield State College, Nursing
- Delson, Lourdes C., A.S., Springfield Technical Community College; B.A., University of Massachusetts; M.A.T., University of Massachusetts, Health/Human Services
- Desautels, Albert, License, Commonwealth of Mass., Elevator Constr. Repairman & Maint; License, Commonwealth of Mass., Second Class, Chief Power Plant Engineer
- * Desrosiers, Ivan R., Cert. American Red Cross; M.A., Antioch University, Emergency Medical Technician
- Dillon, Francis, P., B.A. St. Bernard Seminary; B.MUS.Ed; Hartt School of Music; M.S. Central Conn. State College; Director/Manager WTCC-FM
- DiMonaco, Vincent D., A.S., Springfield Technical Community College; B.S.B.A., Western New England College; M.B.A., University of Massachusetts, Business Administration
- DiPasquale, Ray, B.S. Arkansas Technical University; M.S. Northeastern University, Director of Admissions
- Donoghue, Robert J., B.S., Western New England College; M.B.A., Western New England College, Business Administration
- Donohue, John T., B.B.A., Northeastern University, Dean of Engineering Technologies
- Donovan, Mary H., B.A., Ohio University; M.A., Ohio University, Sociology

- Donovan, William, B.A., Lafayette College; M.S.B.A., University of Massachusetts, Business Administration
- D'Orazio, John, A.A., Springfield Technical Community College; B.A., Westfield State College, M.Ed., Springfield College; Transfer Counselor
- Dowd, James, B.S.E., Westfield State College; M.Ed., Westfield State College, Assistant to the President
- Driscoll, Francis D., B.S., University of Massachusetts; M.S., University of Massachusetts; M.B.A., Western New England College, Data Processing Technology
- * Drost, Sophie L., Cert., American Hair Design Institute; Licensed Cosmetology Instructor, Cosmetology
- Dunn, John H., B.A., American International College; M.A., University of Massachusetts, Dean of Academic Affairs
- * Dupont, Kenneth C., B.A., American International College; M.S., University of Massachusetts, Bio-Medical Instrumentation Technology
- Duzniowski, Richard, A.S., Springfield Technical Community College; B.S., Rochester Institute of Technology; A.A.S., Rochester Institute of Technology, Graphic Arts
- Earle, Beverley, H., B.A. University of Pennsylvania; J.D. Boston University Law School, Director/Special Projects
- * Eaton, Florence L., R.N., Long Island College Hospital; B.S., University of New Hampshire; M.Ed., Antioch University; Cert., Institute of Living, Yale University, Gerontology
- Ely, Tamson, B.A., Goucher College; M.S., Simmons College, College, M.A. University Massachusetts, Director of Library Services.
- Finn, Jeremiah, B.A., St. Michael's College; L.L.B., Western New England College, Law Enforcement/Criminal Justice
- Fitzgerald, Donald, A.B., Oberlin College; M.Ed., University of Vermont; D.Ed., Columbia University, English
- Fitzgibbons, James, B.S., Holy Cross College; M.Ed., Worcester State College; C.A.G.S., University of Connecticut, Psychology
- Foot, Dorathea, R.D.H., Forsyth School of Dental Hygiene; A.S., Northeastern University, B.S., University of North Carolina; M.Ed., University of Massachusetts, Dental Hygiene
- Ford, Doris Cummings, B.A. University of California; M.Ed. University of Massachusetts; C.A.G.S., University of Massachusetts; Counselor, Gerontology Department
- Fortsch, John J., B.S., Fitchburg State College; M.S., Springfield College, Data Processing Technology
- Friedman, Joel, B.A., Brooklyn College; M.A., Brooklyn College, Director of Financial Aid
- * Friedman, Leon J., B.A., University of Hawaii; M.A., George Washington University, Economics
- Furgal, Frank W., B.S., Westfield State College; C.M.E. Society of Manufacturing Engineers, Machine Design Technology
- * Galtenby, William C., B.S.Ch.E., University of Massachusetts, Environmental Technology
- Garvey, Edmond P., President Emeritus
- Gately, John F., B.A., University of Massachusetts, M.A.T., University of Massachusetts, English
- Geltz, Robert C., B.S., California Institute of Technology; Ph.D., University of Pittsburgh, President
- Gentile, Louis A., B.S., American International College; M.S., Springfield College; Ph.D., University of Maryland, Psychology
- Gibbs, William E., B.A., American International College; M.B.A., Western New England College, Graphic Arts Technology
- * Godfrey, John J., B.S., American International College; M.B.A., Western New England College, Business Administration
- Goodchild, Kent, Alan., B.A. University of Massachusetts; M.Ed. Springfield College, Career Counselor.
- Gray, Francis P., A.A., Holyoke Community College; B.A., North Adams State College; M.Ed., Our Lady of the Elms College, C.A.G.S., University of Massachusetts, English
- Greco, Maria K., B.A., Queens College; M.S., Queens College, Developmental English
- Gregorski, Mitchell, B.B.A., American International College; M.B.A., American International College, Business Administration
- * Griffin, Sister Mary C., B.S., St. Joseph College, M.Ed., Westfield State College, Medical Laboratory Technician
- Gunning, Walter E., B.S., Boston College; M.Ed., Westfield State College, Mathematics
- Haggerty, Ellen M., B.S., Salem State College; M.A., American International College, Office Systems/Secretarial Sciences
- Hallaran, John, Richard, Jr., B.A. University of Maryland; Assistant Manager/WTCC-FM
- * Harbeck, Mary Ellen, B.S., Nazareth College; M.Ed., American International College, Medical Assistant
- Hardy, Gladys, Springfield College, Secretary to the President
- Harkins, Richard, B.S., California State College, Drafting and Design Technology
- Harriman, Robert M., A.B., Bowdoin College; M.Ed., Westfield State College; Mathematics
- Herd, William B., A.A., Holyoke Community College; B.S., American International College; M.B.A., Western New England College, Business Administration
- Hilton, Sharon, B.S., Old Dominion University, Dental Hygiene
- * Holland, Thomas E., B.A., Fairfield University; M.A., University of Southern California; Ph.D., University of Southern California, Foreign Languages
- * Hood, Lucille B., B.S., Boston University; M.A., Stanford University, Physical Therapist Assistant
- Howe, Jeffrey T., A.S. Holyoke Community College; A.S. Springfield Technical Community College; B.S. Westfield State College; Respiratory Therapy
- Howes, Bruce O., B.S., Springfield College; M.Ed., Westfield State College, Sociology
- Jimenez, Juan, A., B.S. University of Puerto Rico; M.Ed. University of Massachusetts; Math and Biological Sciences
- Johnson, Rena M., A.S., Berkshire Community College; B.S., University of Massachusetts, Nursing
- Juliano, M. Frances, A.B., Emmanuel College, M.N., Yale University; M.Ed., Springfield College, Psychology

- Jurzynski, Peter, B.S., Springfield College; M.Ed., Springfield College; C.A.G.S., Springfield College, Gerontology
- Karnik, Arvind, B.S.E.E., University of Bombay; M.S.E.E., Rutgers University, Electronic Technology
- Kastel, Priscilla A., R.N., Springfield Hospital School of Nursing, Surgical Technology
- Kasunick, Richard, B.A., Worcester State College; M.Ed., Antioch University, Human Services Associate
- Kurr, Virginia, B.A., University of Maryland; M.Ed., University of Vermont, Liberal Arts Transfer Coordinator
- King, Sandra, Cert., Springfield Technical Institute; A.A., Springfield Technical Community College, Respiratory Therapy
- Kirby, Edwina K., A.S., Becker Junior College; B.S., American International College; M.Ed., University of Massachusetts, Office Systems/Secretarial Sciences
- * LaBrecque, Rita F., R.N., Mercy Hospital School of Nursing; B.S.N., Boston College; M.Ed., Westfield State College; C.A.G.S., American International College, Surgical Technology
- Langone, James A., B.S., Rochester Institute of Technology; M.S., Rochester Institute of Technology, Graphic Arts Technology
- Leahy, Sister Elizabeth, M., S.P., R.N., St. Vincent Hospital School of Nursing; B.S.N., Boston College School of Nursing, M.Nsg., Boston College School of Nursing, Nursing
- * Lemieux, Ann T., B.M., Immaculate College; M.Ed., Bridgewater State College, Music
- Lemieux, Raymond C., B.S., Bridgewater State College; M.Ed., Bridgewater State College; M.A., University of Illinois, Economics
- Lostie, George J., A.B., Holy Cross College; M.S., University of Detroit, Biological Science
- Lukis, Kenneth M., B.A., St. Anselm's College; M.S., Holy Cross College; Ph.D., University of Pittsburgh, Chemistry
- Maclosky, Edward R., B.S., University of Connecticut; M.S., University of Connecticut, Director of Personnel
- Magoon, Irving E., B.S., Mississippi State College, Mathematics
- Manzi, William, B.A., American International College; M.A., Westfield State College, Assistant Dean of Students
- Marion, Mary B., B.A., Elms College; M.A., Southern Illinois University, English
- Martinello, Peter, A.S., Springfield Technical Community College; B.S., University of Massachusetts, Automotive Technology
- Mayfield, Walter P., B.S., University of Alabama; M.S., Rensselaer Polytechnic Institute, English
- Mazzuchelli, Felicitia, Fisher Business College, Administrative Assistant for Continuing Education
- McAuliffe, Nancy, B.A., College of St. Catharine; A.M.L.S., University of Michigan, Acting Director of Library Services
- McCabe, Setta, B.A. Simmons College, Coordinator, College Publications
- McCarthy, Beverly, A.S., Berkshire Community College; B.S., Salem State College; M.A.T., American International College, Office Systems/Secretarial Sciences
- * McCarthy, Carol, A.S., Springfield Technical Community College; B.S., University of Massachusetts, Dental Assistant
- * McCarthy, Margaret, A.B., Wheaton College; M.S., University of Pittsburgh; M.S., University of Massachusetts, Physics
- McDonald, James, A., B.S., University of Massachusetts; M.S., American International College, Mathematics
- McDonnell, Clare, E., B.A., Our Lady of the Elms College; M.A., University of Wisconsin, Developmental English
- McGuinness, Robert, A.A.S., Holyoke Community College; B.S., Westfield State College; M.Ed., Westfield State College, Heat/Power/Air Conditioning Technology
- Maahan, James, F., B.S., University of Massachusetts; M.A.T., University of Massachusetts, Biological Science
- Michalak, Jean, A.S., Springfield Technical Community College, Medical Assistant
- * Michelman, Cherry, A.B., Smith College; A.M., Boston University; Ph.D., University of Massachusetts, Philosophy/Political Science
- Millet, Joan, M., R.N., St. Joseph's College; B.S., St. Joseph's College; M.A., Columbia University, Nursing
- * Mish, Judith E., B.S., University of Minnesota; M.A., University of Minnesota, Developmental English
- Montessi, Peter, J., B.S., Northwestern State College; B.S.Ed., Westfield State College, Machine Design Technology
- Moriarty, Edward, A.B., St. Anselm's College; M.Ed., Our Lady of the Elms College, Sociology
- Moriarty, Patricia, R.N., Providence Hospital School of Nursing, B.S.N., Boston College, Nursing
- Mosher, Pearl, A.B., Mt. Holyoke College; M.A., Mt. Holyoke College, Gerontology
- * Mullett, Gary, J., B.S.E.E., University of Massachusetts; M.S.E.E., University of Massachusetts, Electronic Technology
- Mullett, William, S., B.A., American International College; M.Ed., University of Massachusetts, Physics
- Murphy, Mary, A.B., Our Lady of the Elms College; M.A., American International College, Developmental English
- Murray, Carl, E., B.S., Westfield State College, Heat/Power/Air Conditioning Technology
- Neville, Eileen, R.N., Providence Hospital School of Nursing; B.S., University of Massachusetts; M.S., University of Massachusetts, Chairperson, Division of Nursing
- Nichols, Roberta, R., B.S., University of Connecticut; M.A.T., University of Hartford; Ph.D., University of Massachusetts, Biological Science
- Nindbala, Elsa, M., B.A., American International College; M.S.T., American International College, Chemistry
- O'Donnell, Marjorie, B.S., American International College; M.A.T., American International College, Office Systems/Secretarial Sciences
- O'Leary, Mary E., R.N., Providence Hospital School of Nursing; B.S., Boston College; M.S., Boston College; J.D., Western New England College, Dean of Health/Human Services
- Pandolfi, Ann, L., A.S., Springfield Technical Community College; Staff Assistant, Data Processing Services
- * Paradzick, Otto, B.S.M.E., Western New England College; M.B.A., Western New England College; Registered Professional Engineer, Advanced Metals Machining and Machine Design Technology

- Parenteau, Robert, B.B.A., Western New England College; B.A. Southwestern College; M.Ed. University of Massachusetts; M.Div. Yale Divinity School, Mathematics
- Parkin, Richard, C., B.A., American International College; M.A., Bowling Green State University; C.A.G.S., Carnegie-Mellon University, History
- Pedorzoll, Gall, B.A., Elmira College; M.A., University of Wisconsin; M.Ed., Springfield College, English
- Petracca, Camille, B.A., Western Connecticut State College; M.Ed. Springfield College; C.A.G.S. Springfield College, Counselor for Handicapped Students
- * Pl-Sunyer, Mary Jane, A.B., Radcliffe College; A.M., Radcliffe College; M.A., University of Massachusetts; Ph.D., University of Massachusetts, Sociology/Anthropology
- * Ponte, George, A.S., Springfield Technical Community College, Respiratory Therapy
- Pooler, Marilyn, R.N., Baystate Medical Center School of Nursing, Medical Assistant
- Premo, Beverly, B.S., University of Connecticut, Nursing
- Pryor, Dorothy, J., A.B., Fisk University; M.A., University of Chicago, English
- Pushkin, Richard, A.S., Springfield Technical Community College, Radiologic Technology
- Rapoport, Nancy, D., A.B., University of Rochester; M.S. University of Pennsylvania; M.S., University of Massachusetts, Biological Science
- Raverta, Sharon, B.A., American International College; M.S.T., American International College, Biological Science
- Reardon, Sister Elizabeth, R.N., Rutland Hospital; B.S., Boston College; M.S.N., Catholic University of America, Nursing
- Reichert, Katharine, B.A., Drow University; M.L.S., Florida State University; M.S. University of Massachusetts, Asst. Dean of Administration (Acting)
- Raid, Eric; Assistant Manager WCCC-FM
- Rentzschke, Jewel, B.A., American International College; A.M., Mount Holyoke College, Chairman, Division of Humanities
- Rentzschke, Siegfried, B.A., American International College; M.A., Southern Illinois, Economics
- Rice, Dennison, B.A., Calvin Coolidge College of Liberal Arts; M.A., Emerson College, English
- Richers, Joan, R.N., Beverly Hospital School of Nursing; Certified Nurse Practitioner, University of Massachusetts, Nurse, Student Health Services
- * Rillings, Kenneth, B.S., Hofstra University, Ph.D. University of Massachusetts; Chemistry
- Ritzen, Michael J., B.A., University of Minnesota; M.A., University of Minnesota, Developmental English
- Roberts, Carol, A., B.S., Tufts University; M.Ed., University of Massachusetts; C.A.G.S., University of Massachusetts, Chairman, Division of Social Sciences
- Robinson, Lee, A.S., Triton Jr. College, Respiratory Therapy
- Rodgers, Robert, B.A., University of Massachusetts; J.D., Northeastern University School of Law, Business Administration
- * Ross, Joseph, F., B.A., Emerson College, M.Ed., Westfield State College, English
- * Rutstein, Nathan L., B.A., Depauw University, Telecommunications Technology
- * Ryan, Denise, R.D.H., Forsyth School of Dental Hygiene; B.S., Boston University; M.S., Columbia University, Dental Hygiene
- * St, Onge, Alfred C., B.S., American International College; M.Ed., Westfield State College, Data Processing Technology
- Salz, Henry, B.S. University of Mexico; Ph.D., Massachusetts Institute of Technology, Physics
- Sarriette, David, A.A., Springfield Technical Community College, Director of Veterans' Affairs
- Sausville, Sherry, B.A., American International College; M.Ed., American International College, Developmental English
- * Scannapleco, Bert, B.A., American International College; J.D., Western New England College, Law Enforcement/Criminal Justice
- Scibell, Andrew, B.A., St. Anselms College; M.Ed., Boston State College, Biological Science
- Sears, Josephine, B.S.N., Boston College, Nursing
- Shea, Patricia A., R.N., Misericordia Hospital; B.S. University of Dayton; M.S. University of Massachusetts, Nursing
- Shea, Thomas J., Cert. Vocational Education, Westfield State College, Advanced Metal Machining
- Shore, Stanley, B.S., Tufts University; Ph.D., University of Massachusetts, Chemistry
- Sickle, Christine, B.S., Allegheny College; M.Ed., University of Hartford, Early Childhood Education
- Simon, Paul, B.A. American University; M.Ed., American University; Director of Student Activities.
- Slezak, Lawrence, B.S., State University of New York; M.F.A., University of Massachusetts, Art
- Smallman, Kirk, A.A., Pasadena City College; B.A., Antioch College; M.A., University of Southern California, Telecommunications Technology
- * Smith, Gordon, B.S. University of Massachusetts; M.Ed. Antioch University, Radiologic Technology
- Smith, J. Edward, B.A. State University of New York; M.S., State University of New York, Director of Continuing Education
- Smith, Myra, D., B.S., Springfield College; Assistant Director of Admissions
- Smola, Daniel, B.S.M.E., University of Massachusetts; M.S.E.E., University of Massachusetts, Environmental Technology
- Speer, Stanley C., A.B., San Jose State College; A.M., San Jose State College; Ph.D., University of Connecticut, Psychology
- Spinetti, John P., B.S., University of Massachusetts; M.S., University of Massachusetts, Ed.D. University of Massachusetts; Mathematics/Chemistry
- Stefferd, John, B.S., Springfield College; M.Ed., Springfield College; Ed.D. University of Arkansas, Dean of Student Services
- Sturtevant, Richard, B.S., University of Massachusetts, Electrical Technology
- Sutin, Marilyn, B.A., Richmond College; M.Ed. Springfield College, Financial Aid Counselor
- Szlachetka, Carol, A.S., Springfield Technical Community College; B.S. Westfield State College, Dental Assisting
- Szlajon, Beatrice, A.A., Havana Business College, Director of Bilingual Services

PART-TIME FACULTY DIRECTORY

- Tallman, Lynn, R.T., Pittsfield General Hospital, Radiologic Technology
- Teece, Jennett L., A.B., Mount Holyoke College; A.M., Oberlin College, Biological Science
- Tetlow, Thomas, B.S., American International College; M.B.A., Western New England College, Data Processing Technology
- Tetrault, Carolyn L., A.B., Emmanuel College; M.A., Boston College, English
- Therrien, Ernest R., B.A., University of Maine; M.A., Fordham University, Business Administration
- Thomas, Essie, Certificate, Lincoln High Vocational, Cosmetology
- Thompson, Teresina B., Dean Emeritus
- Tullock, John W., B.S., University of Massachusetts; M.L.A., University of Michigan, Landscape/Plant Science Technology
- Tuthill, William L., B.S.C.E., Union College; M.B.A., University of Massachusetts, Civil Engineering Technology
- * Valentine, Albert, A.S., Springfield Technical Community College; B.S. University of Massachusetts, Fire Protection and Safety Technology
 - Verros, Athena, B.A., Clark University; M.A., Assumption College; Registrar
 - Walkowicz, Mitchell, B.S.Ed. Westfield State College; Electronic Technology
 - Wallack, Oliver F., B.S., University of Connecticut; M.S. University of Connecticut, Engineering/Science Transfer
 - * Warner, John R., B.S.C.E., University of Massachusetts; M.B.A., Western New England College, Civil Engineering Technology
 - * Welale, Virginia C., B.A., University of Michigan; Cert., Katherine Gibbs School; M.A., American International College, Office Systems/Secretarial Sciences
 - Welsner, Stephen, G., A.A., Rockland Community College; B.S. Richmond College; M.A.T., University of Massachusetts, Sociology
 - * White, William R., B.S., University of Connecticut; M.S. Rensselaer Polytechnic Institute, Engineering and Science Transfer
 - Wilk, Alicia, M., B.S.B.A., Western New England College, Staff Assistant, President's Office
 - Williams, Jeannette, B.S., University of Massachusetts; Medical Laboratory Technician
 - Winsper, David, B.A., Vassar College; M.A.T., University of Massachusetts, Developmental English
 - Wurtzel, Barbara, S., B.A., State University of New York; M.L.S., State University of New York, Reference Librarian
 - Yacovone, Vincent, A.A., Holyoke Community College; B.A., University of Massachusetts; M.A., University of Connecticut, Director of Instructional Media Production Center
 - * Yawin, Robert, B.S., Central Connecticut State College; M.A., Bowling Green State University; Ph.D., University of Connecticut, Mathematics
 - Zagarins, Juris, B.S., Tufts University, Engineering/Science Transfer
 - Zumwalt, Charles, B., B.S. Oregon State University, Director of Placement

* DEPARTMENT CHAIRPERSON

DIRECTORY INFORMATION AS OF NOVEMBER, 1980

- Bartlett, Frederick E., B.S., St. Louis University; M.B.A. Hofstra University, Business Administration/Nursing
- Bennett, Mary L., B.A., Mt. Holyoke College, Biological Science
- Betz, Penelope W., B.A., University of California; M.Ed., University of Massachusetts, English as a Second Language
- Bliss, Irene, A.D., Springfield Technical Community College; B.S., St. Joseph College, Nursing
- Block, Harriette S., B.A., University of Massachusetts, M.Ed., University of Massachusetts, Office Systems/Secretarial Sciences
- Budd, Robert, B.A., University of Massachusetts, Mathematics
- Cagan, Mary Ellen, A.D., Springfield Technical Community College; B.S., American International College, Nursing
- Cameroia, Nicholas, B.A., American International College; M.A., American International College, Sociology
- Charkiewicz, Mitchell, B.S.M.E., Northeastern University; B.B.A., Western New England College, Mathematics
- Colclough, Kathy, B.S., Simmons College, Mathematics
- DIMonaco, Janis, B.A., Westfield State College; M.E.D., Springfield College, Ph.D., California Western University, Psychology
- Dupont, Carol, B.A., American International College; M.A., American International College, Biological Science
- Ethridge, Gerald, Clayton, B.S., Fitchburg State College, Data Processing Technology
- Fox, Alex, D.D.S., Northwestern University, Dental Hygiene
- Harrington, Linda, Shea, B.A., Our Lady of the Elms College; M.A., Westfield State College, English
- Havelas, Robert S., A.S., Wentworth Institute; B.A., Miami University, Civil Engineering Technology
- Higgins, James, D.M.D., Visiting Clinical Professor, Dental Hygiene
- Hoefener, Elmer E., B.G.E., University of Omaha, Business Administration
- Jacapraro, Steven, D.M.D., Visiting Professor, Dental Hygiene
- Joyce, William F., B.A., University of Massachusetts; Ph.D., University of Massachusetts, Chemistry/Mathematics
- Kao, Chih-Mai, B.S., National Taiwan University, Mathematics
- Kao, Margaret, B.S., Southeastern Massachusetts University; M.B.A., University of Massachusetts, Mathematics
- Kapilinsky, Michael, B.A., Williams College; D.M.D., Tufts Dental School; Certificate, Boston University Graduate School of Dentistry, Dental Hygiene
- King, Theodore, M.D., B.S., Capital University; M.D. Cincinnati College, Medical Director, Respiratory Therapy
- Laxton, Ronald, R.N. Baystate School of Nursing; B.S. University of Connecticut, Nursing
- Maratea, Dominick A., A.S., Springfield Technical Community College, Fire Protection and Safety Technology
- Manning, Thomas, A.B., St. Anselm's College; D.D.S., Georgetown Dental School, Dental Hygiene
- Maroney, Thomas A., A.B., Fordham University; M.P.A. Syracuse University; M.A. Syracuse University; J.D., Western New England College, Business
- Morales, Idalia, B.A., Oswego State College; M.A. Hunter College, English as a Second Language
- Prew, Frank, B.S., Rhode Island University, Mathematics
- Pudlo, William, B.A., University of Massachusetts; J.D., University of Toledo College of Law, Business
- Rice, Anne, B.A., Bucknell University, M.A., Boston University, English
- Sansalone, James, B.A., Western New England College, Mathematics
- Smith, Christopher, D.M.D., Visiting Clinical Professor, Dental Hygiene
- Staron, Ronald, B.S., Georgetown University; M.A., Wesleyan University, Physics
- Sullivan, Gladys, B.S., Simmons College; M.A.T., American International College, Office Systems/Secretarial Sciences
- Szarian, Ronald, B.S., University of Dayton, D.D.S., Marquette University, Dental Hygiene
- Teehan, Paul D., B.S.B.A., North Adams State College, M.E.D., American International College; M.B.A., American International College, Business
- Tenerowicz, Michael, B.S., American International College; M.B.A., American International College, Business
- Theroux, William, D.M.D., Visiting Clinical Professor, Dental Hygiene
- Thompson, Sandra, A.D., University of Hartford; B.S., Westfield State College, Nursing
- Wegial, Joseph, B.A., St. Anselm's College; D.M.D., Loyola University, Dental Hygiene
- Yaros, Kenneth, D.M.D., Temple Dental School, Dental Hygiene

CLINICAL FACULTY - HEALTH/HUMAN SERVICES

DENTAL HYGIENE

Boccalini, John, D.M.D., Tufts Dental Facility, Clinical Professor
 Brunz, David, D.D.S., Clinical Professor
 Kantor, Howard, D.D.S., Clinical Professor
 Maziarz, Mary, R.D.H., Tufts Dental Facility, Clinical Instructor
 Rao, Satish, D.M.D., Tufts Dental Facility, Clinical Professor
 Stover, Nancy, R.D.H., Tufts Dental Facility, Clinical Instructor
 Tesini, David, D.M.D., Tufts Dental Facility, Clinical Instructor
 Vegliard, Nancy, R.D.H., National Foundation of Dentistry for Handicapped, Clinical Instructor

EMERGENCY MEDICAL TECHNICIAN

Caby, Cathy, M.A., Mercy Hospital, Clinical Instructor
 Koss, Anton, Mass. Mutual, Clinical Instructor
 Poulin, Rene, University Products; Industrial E.M.T., Clinical Instructor
 Pummell, Barbara, Clinical Instructor
 Smith, Charles, Paramedic Ambulance, Clinical Instructor
 Stebbins, Fred, Springfield Fire Dept., Clinical Instructor
 Weiz, Bernard, Jr., Springfield Fire Dept., Clinical Instructor

HUMAN SERVICES

Bellows, John, Coordinator, Community Education Training Program, Clinical Instructor
 Clark, George, Supervisor, Special Educ., Springfield Public Schools, Clinical Instructor
 Falk, Steven, Principal, Mill Pond School, Clinical Instructor
 Farrell, Joseph, Coordinator, Video Community Care Mental Health Ctr., Clinical Instructor
 Ferrini, Linda, Executive Director, Hilltop Children's Services, Clinical Instructor
 Gajewski, Jay, Director, Carvel, Inc., Clinical Instructor
 Hemley, Fred, Coordinator, Community Care Mental Health Ctr., Clinical Instructor
 Jackson, John, Executive Director, Children's Study Home, Clinical Instructor
 Kinsley, Carol, Coordinator, Springfield School Volunteers, Clinical Instructor
 Krudenier, James, Statistician, Springfield Community Mental Health Consortium, Inc., Clinical Instructor
 Laramie, Harriet, Coordinator, Sunshine Village, Inc., Clinical Instructor
 Mullen, Walter, Social Worker, Child Guidance Clinic of Springfield, Clinical Instructor
 Philipoff, Thomas, Principal, Our Lady of Providence Children's Center, Clinical Instructor
 Rosen, Dr. Ronald, Superintendent, Monson Developmental Center, Clinical Instructor
 Sturm, Dr. Richard, Director, Psychological Services, Veteran's Administration Medical Ctr., Clinical Professor
 Waugh, Alan, Coordinator, Community Adjustment Program, Community Care Mental Health Ctr., Clinical Instructor

MEDICAL ASSISTING

Adamczyk, Jerry, Ludlow Hospital, Clinical Instructor
 Amedeo, Brenda, Supervisor, Out Patient Lab., Mercy Hospital, Clinical Instructor
 Bacon, Margaret, Supervisor, Emergency Room, Ludlow Hospital, Clinical Instructor
 Bailey, Dr. Edward, Wesson Memorial Hospital, Clinical Professor
 Belcastro, Dr. William, Clinical Professor
 Boen, Helen, Supervisor Central Supply, Ludlow Hospital, Clinical Instructor
 Boucher, Dr. William, Internal Medicine, Clinical Professor
 Briones, Dr. Anselmo, DB-GYN, Clinical Professor
 Charles, Dr. Leroy, DB-GYN, Clinical Professor
 Drennan, Jane, Supervisor, Out Patient, Wesson Memorial Hospital, Clinical Instructor
 Ferrazzi, Mary Ann, Mercy Hospital, Clinical Instructor
 Fernandez, Nancy, Supervisor, EKG Dept., Ludlow Hospital, Clinical Instructor
 Flanagan, Margaret, Supervisor, Surgery, Medical West, Clinical Instructor
 Fountain, Robertine, Head Nurse, Wesson Memorial, Emergency Division, Clinical Instructor
 Goyett, Claire, Supervisor Laboratory, Medical West, Clinical Instructor

MEDICAL ASSISTING (continued)

Graney, Margaret, Supervisor, EKG Dept., Wesson Memorial Hospital, Clinical Instructor
 Hanley, Dr. James, Clinical Instructor
 Hubbard, Sandra, R.N., Supervisor, Wesson Womens' Clinic, Clinical Instructor
 Jemolo, Audrey, Head Nurse, Out Patient Med. Services, Wesson Memorial, Clinical Instructor
 Kibbe, Gail, Supervisor Lab., Ludlow Hospital, Clinical Instructor
 Leslege, Theresa, Supervisor, Record Room, Medical West, Clinical Instructor
 Magura, Ann, Business Office, Ludlow Hospital, Clinical Instructor
 Marshman, Nelta, Supervisor, Primary Care, Medical West, Clinical Instructor
 McCauley, Cecelia, Supervisor, Oncology Dept., Mercy Hospital, Clinical Instructor
 Nahorniak, Carleen, Administrator of Nurses Inambulatory Care, Mercy Hospital, Clinical Instructor
 Nuger, Chris, Supervisor, OB-GYN, Medical West, Clinical Instructor
 Parker, Cynthia, Supervisor, Pediatrics, Medical West, Clinical Instructor

MEDICAL LABORATORY TECHNICIAN

Johnson, Rebecca, M.T. (ASCP), Lab. Supervisor, Noble Hospital, Clinical Instructor
 O'Neill, Michael, M.T. (ASCP), Educ. Coord. of M.T. Program, Baystate Med. Ctr., Clinical Instructor
 Poulin, George, Lab. Manager, Harrington Memorial Hospital, Clinical Instructor
 Spagna, Stephen, M.T. (ASCP), Laboratory Supervisor, Providence Hospital, Clinical Instructor
 Sullivan, John, M.D., Chief Medical Director of MLT and Pathologist-in-Chief, Baystate Medical Center, Clinical Professor
 Wilk, Elizabeth, M.T. (ASCP), Baystate Medical Center, Clinical Instructor

NUCLEAR MEDICINE TECHNICIAN/RADIATION THERAPY TECHNOLOGY

Cowell, Vernice, RMNT, Instructor, Wesson Memorial Hospital, Clinical Instructor
 LaFrance, Martha, R.T.T., Wesson Memorial Hospital, Clinical Supervisor & Instructor
 Lis, George, RMNT, Wesson Memorial Hospital, Clinical Instructor
 Gragan, Robert, A., M.D., Chief Medical Director of Radiation/Radiologic and Nuclear Technology, Baystate Med. Ctr., Clinical Professor
 Park, Won, C., M.D., Medical Director of Radiation Therapy, Baystate Medical Center, Clinical Professor
 Zubl, Said, M.D., Medical Director of Nuclear Medicine Technology, Baystate Medical Center, Clinical Professor
 Turner, John, M.D., Chief Radiologist, Wesson Div., Baystate Med. Ctr., Clinical Professor

PHYSICAL THERAPIST ASSISTING PROGRAM

Andrews, George, R.P.T., Geriatric Authority of Holyoke, Mass., Clinical Instructor
 Bagley, Kim, R.P.T., Leonard Morse Hospital, Natick, Mass., Clinical Instructor
 Beauchemin, Valerie, R.P.T., Cooley Dickinson Hospital, Northampton, Mass., Clinical Instructor
 Carille, June, A., R.P.T., Massachusetts Rehabilitation Hospital, Boston, Mass., Clinical Instructor
 Chaffee, Karen, R.P.T., Monson Developmental Center, Clinical Instructor
 Enko, John, R.P.T., Baystate Medical Center, Wesson Memorial Unit, Clinical Instructor
 Fortin, Allison, P.T.A., Providence Hospital, Holyoke, Mass., Clinical Instructor
 Goulet, Kathy, R.P.T., Central Connecticut Easter Seal Rehabilitation Center, Meriden, CT., Clinical Instructor
 Hanna, Janet, R.P.T., Mary Lane Hospital, Ware, Mass., Clinical Instructor
 Hershberg, Judy, R.P.T., University Hospital, Inc., Boston, Mass., Clinical Instructor
 Jones, Cindy, R.P.T., Holyoke Soldiers Home, Holyoke, Mass., Clinical Instructor
 Leismann, Eileen, University Health Services, University of Massachusetts, Amherst, Mass., Clinical Instructor
 Lovejoy, Patricia, R.P.T., Western Massachusetts Hospital, Westfield, Mass., Clinical Instructor

PHYSICAL THERAPIST ASSISTING PROGRAM (continued)

Mack, Joseph, R.P.T., Mercy Hospital, Springfield, Mass.,
Clinical Instructor
McQueeney, Eleanor, R.P.T., Lakeville Hospital, Lakeville,
Mass., Clinical Instructor
Nowak, Patrice, R.P.T., St. Vincent Hospital, Worcester,
Mass., Clinical Instructor
Oberg, Paul, R.P.T., Kent County Memorial Hospital,
Warwick, Rhode Island, Clinical Instructor
Ogrodnik, Joan, R.P.T., Mercy Hospital, Springfield,
Mass., Clinical Instructor
Pacholski, Marsha, Shriners Hospital for Crippled Children,
Springfield, Mass., Clinical Instructor
Palmer, Edward, R.P.T., Franklin County Public Hospital,
Greenfield, Mass., Clinical Instructor
Pronowicz, Dennis, R.P.T., Providence Hospital, Holyoke,
Mass., Clinical Instructor
Santos, Carmen, P.T.A., Willimansett Nursing Home,
Willimansett, Mass., Clinical Instructor
Scagel, Elaine, R.P.T., Cooley Dickinson Hospital,
Northampton, Mass., Clinical Instructor
Storry, Donna, R.P.T., Springfield Municipal Hospital,
Clinical Instructor
Swanson, Edward, R.P.T., Noble Hospital, Westfield, Mass.,
Clinical Instructor
Tuthill, Cindy, R.P.T., Ludlow Hospital, Ludlow, Mass.,
Clinical Instructor
Wykar, Zella, R.P.T., Wing Memorial Hospital, Palmer,
Mass., Clinical Instructor
Zaleski, Jean, R.P.T., Holyoke Hospital, Holyoke, Mass.,
Clinical Instructor
Zingarelli, Carlo, R.P.T., Holyoke Hospital, Holyoke,
Mass., Clinical Instructor

RADIOLOGIC TECHNOLOGY

Hyland, John, M.D., Chief Cardio Vascular Lab., Baystate
Med. Ctr., Clinical Professor
McEwan, Kenneth, M.D., Radiology Wesson Div., Baystate
Med. Ctr., Clinical Professor
May, Susan, Radiologic Tech., Wesson Memorial Hospital,
Clinical Supervisor
Polga, James, M.D., Radiology, Baystate Med. Ctr., Clinical
Professor
Turner, John, M.D., Chief Radiologist, Wesson Div.,
Baystate Med. Ctr., Clinical Professor

SURGICAL TECHNOLOGY

Berrie, Joan, R.N., Supervisor, Baystate Med. Ctr.,
Clinical Instructor
Burns, Anne Marie, R.N., Supervisor, Harrington Memorial
Hospital, Clinical Instructor
Foley, Constance, R.N., Supervisor, Holyoke Hospital,
Clinical Instructor
Hickey, Jean, R.N., Providence Hospital, Clinical
Instructor
Lacerte, Louise, R.N., Supervisor, Wesson Memorial Unit,
Clinical Instructor
Magane, Marylu, R.N., Supervisor, Noble Hospital, Clinical
Instructor
O'Connor, Ann, R.N., Supervisor, Ludlow Hospital, Clinical
Instructor
Shanley, Marjorie, R.N., Supervisor, Mercy Hospital,
Clinical Instructor
Shaw, Marjorie, R.N., Supervisor, Providence Hospital,
Clinical Instructor
Spencer, Florence, R.N., Supervisor, Franklin County Public
Hospital, Clinical Instructor
Taylor, Carla, R.N., Supervisor, Cooley Dickinson Hospital,
Clinical Instructor

COURSE DESCRIPTION INDEX — NUMERICAL

Number	Title	Page	Number	Title	Page
HEALTH/HUMAN SERVICES COURSES					
AA 100	MEDICAL ASSISTANT TECHNIQUES 1	40	AR 401	RESPIRATORY THERAPY 4	52
AA 101	PROGRAMMED MEDICAL TERMINOLOGY	40	AR 402	RESPIRATORY THER. APPLICATION & CLIN. SCI. 2	52
AA 102	HEALTH SCIENCES AND LAW 35,39,40,41,46,52,53	40	AR 403	PULMONARY FUNCTIONS TESTING	52
AA 103	MEDICAL ASST. TECHNIQUES FOR SECRETARIES 1	72	AT 100	INTRODUCTION TO GERONTOLOGY	36
AA 200	MEDICAL ASSISTANT TECHNIQUES 2	40	AT 200	RETIREMENT AND FAMILY ADJUSTMENT	36
AA 201	MEDICAL ASST. TECHNIQUES FOR SECRETARIES 2	72	AT 300	PLAN. AND DELIVERY OF CMTY. SERV. FOR ELDERLY	36
AA 300	MEDICAL ASSISTANT TECHNIQUES 4	40	AT 400	MINORITY AND ETHNIC ELDERLY	36
AA 301	MEDICAL ASSISTANT TECHNIQUES 3	40	AT 401	REHABILITATIVE APPROACHES FOR THE ELDERLY	36
AA 400	MEDICAL ASSISTANT TECHNIQUES 5	40	AX 100	MEDICAL TERMINOLOGY	50
AC 100	BEAUTY SALON MANAGEMENT	30	AX 101	INTRODUCTION TO RADIOLOGIC TECHNOLOGY 1	50
AC 101	PRINCIPLES OF COSMETOLOGY	30	AX 102	INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2	50
AC 102	FUNDAMENTALS OF APPLIED COSMETOLOGY 1	30	AX 103	MATHEMATICS OF RADIOLOGY	50
AC 103	FUNDAMENTALS OF APPLIED COSMETOLOGY 2	30	AX 104	RADIOLOGIC TECHNOLOGY 1	50
AC 200	BASIC DERMATOLOGY	30	AX 105	RADIOLOGIC TECHNOLOGY 2	50
AC 201	SUPERVISED LAB PRACTICUM 1	30	AX 200	RADIOLOGIC TECHNOLOGY 3	50
AC 202	SUPERVISED LAB PRACTICUM 2	30	AX 201-202	RADIOLOGIC TECHNOLOGY 4	50
AD 100	DENTAL ASSISTING TECHNIQUES 1	31	AX 300	RADIOLOGIC TECHNOLOGY 5	50
AD 101	DENTAL SCIENCES 1	31	AX 301	RADIOLOGIC TECHNOLOGY 6	50
AD 102	ORAL ANATOMY	31	AX 400	RADIOLOGIC TECHNOLOGY 7	50
AD 200	DENTAL ASSISTING TECHNIQUES 2	31	AX 401	RADIOLOGIC TECHNOLOGY 8	50
AD 201	DENTAL SCIENCES 2	31	AY 100	RADIATION THERAPY TECHNOLOGY 1	47
AD 202	DENTAL RECORDS	32	AY 101	PRACTICUM	48
AD 203	DENTAL RADIOLOGY 2	32	AY 200	RADIATION THERAPY TECHNOLOGY 2	47
AD 204	CLINICAL AFFILIATION	32	AY 201	PRACTICUM	48
AD 205	SEMINAR IN DENTAL ASSISTING	32	AY 202	CLINICAL PRACTICUM 1	47
AE 100	E.M.T. 1	35	AY 203	CLINICAL PRACTICUM 2	47
AE 200	E.M.T. 2	35	AY 300	RADIATION THERAPY TECHNOLOGY 3	47
AE 300	E.M.T. 3	35	AY 301	PRACTICUM	48
AE 400	E.M.T. 4	35	AY 400	RADIATION THERAPY TECHNOLOGY 4	48
AH 100	ORAL ANATOMY 1	33	AY 401	PRACTICUM	48
AH 101	CLINICAL PRACTICE 1	33	AY 402	PRACTICUM	48
AH 102	DENTAL RADIOLOGY 1	32, 33	AY 403	PRACTICUM	48
AH 200	NUTRITION	34	AZ 100	NUCLEAR MEDICINE TECHNOLOGY 1	42
AH 201	ORAL PATHOLOGY	34	AZ 101	PRACTICUM	43
AH 202	CLINICAL PRACTICE 2	34	AZ 200	NUCLEAR MEDICINE TECHNOLOGY 2	42
AH 203	ORAL ANATOMY 2	34	AZ 201	PRACTICUM	43
AH 300	PERIODONTOLOGY	34	AZ 202	CLINICAL PRACTICUM 1	42
AH 301	DENTAL MATERIALS 1	32, 34	AZ 203	CLINICAL PRACTICUM 2	42
AH 302	PHARMACOLOGY	34	AZ 300	NUCLEAR MEDICINE TECHNOLOGY 3	42
AH 303	CLINICAL PRACTICE 3	34	AZ 301	PRACTICUM	43
AH 400	COMMUNITY DENTAL HEALTH	34	AZ 400	NUCLEAR MEDICINE TECHNOLOGY 4	42
AH 401	CLINICAL PRACTICE 4	34	AZ 401	PRACTICUM	43
AH 402	APPLIED DENTAL AUXILIARY SKILLS	34	AZ 402	PRACTICUM	43
AL 100	INTRODUCTION TO THE CLINICAL LAB 1	41	AZ 403	PRACTICUM	43
AL 200	INTRODUCTION TO MEDICAL MICROBIOLOGY	41	BUSINESS ADMINISTRATION COURSES		
AL 300	HEMATOLOGY AND COAGULATION	41	BA 110	ACCOUNTING 1	59
AL 301	CLINICAL CHEMISTRY	41	BA 111	SMALL BUSINESS ACCOUNTING & CONTROL	59
AL 400	IMMUNOHEMATOLOGY	41	BA 112	SMALL BUSINESS PLANNING, CONTROL & FINANCING	59
AL 401	PARASITOLOGY	41	BA 210	ACCOUNTING 2	59
AL 402	CLINICAL LAB 2	41	BA 310	INTERMEDIATE ACCOUNTING 1	60
AL 403	CLINICAL LAB PRACTICUM 1	41	BA 311	COST ACCOUNTING	60
AL 404	CLINICAL LAB PRACTICUM 2	41	BA 312	MANAGERIAL ACCOUNTING	60
AM 100	HUMAN SERVICES 1	38	BA 313	INTRO. TO FEDERAL INCOME TAXES	60
AM 200	HUMAN SERVICES 2	39	BA 410	INTERMEDIATE ACCOUNTING 2	60
AM 300	HUMAN SERVICES 3	39	BA 412	ADVANCED COST ACCOUNTING	60
AM 301	HUMAN SERVICES SEMINAR 1	39	BA 413	FEDERAL INCOME TAX 2	60
AM 400	HUMAN SERVICES 4	39	BA 417	GOVERNMENTAL & FUNO ACCOUNTING	60
AM 401	HUMAN SERVICES SEMINAR 2	39	BA 418	AUDITING	60
AN 100	NURSING 1	44	BB 310	BUSINESS LAW 1	62
AN 200	NURSING 2	44	BB 410	BUSINESS LAW 2	62
AN 300	NURSING 3	44	BB 411	INSURANCE LAW	62
AN 400	NURSING 4	44	BB 412	SMALL BUSINESS LAW	62
AN 401	NURSING 5	44	BB 413	REAL ESTATE LAW	62
AO 100	ORT 1	53	BC 102	MACHINE SHORTHAND 1	72
AO 200	ORT 2	53	BC 202	MACHINE SHORTHAND 2	73
AO 300-301	ORT 3	53	BC 302	MACHINE SHORTHAND 3	73
AO 302	PHARMACOLOGY/ORT	53	BC 412	COURT REPORTING TECHNOLOGY	73
AO 400	SEMINAR/SURGICAL	53	BD 101	COMPUTER CONCEPTS	67
AO 401-402	ORT 4	53	BD 102	PROGRAMMING 1-R.P.G.	67
AP 100	PHYSICAL THERAPIST ASSISTING 1	46	BD 202	PROGRAMMING 2-R.P.G.2	67
AP 200	KINESIOLOGY	46	BD 210	D/P ACC. SYSTEMS & APPLICATIONS	68
AP 201	PHYSICAL THERAPIST ASSISTING 2	46	BD 302	COBAL 1	68
AP 300	MEDICAL LECTURES	46	BD 305	BAL-BASIC ASSEMBLY LANGUAGE	68
AP 301	PHYSICAL THERAPIST ASSISTING 3	46	BD 306	FORTAN FOR TECHNOLOGIES	95
AP 400	SUPERVISED CLINICAL EXPERIENCE 1	46	BD 306	FORTAN IV	68
AP 401	SUPERVISED CLINICAL EXPERIENCE 2	46	BD 310	ADVANCE SYSTEMS	68
AP 402	PHYSICAL THERAPIST ASSISTANT SEMINAR	46	BD 402	COBAL 2	68
AR 100	RESPIRATORY THERAPY 1	51	BD 410	D/P SYSTEMS & PROGRAMMING PROJECT	68
AR 200	RESPIRATORY THERAPY PHYSICS	52	BD 411	MANAGEMENT INFO. SYSTEMS	68
AR 201	RESPIRATORY PHARMACOLOGY	52	BE 301	EXECUTIVE TYPEWRITING	73
AR 300	RESPIRATORY THER. APPLICATION & CLIN. SCI. 1	52	BE 303	SECRETARIAL PRACTICE 1	73
AR 301	RESPIRATORY THERAPY 2	52	BE 402	EXECUTIVE DICTATION & TRANSCRIPTION	73
AR 302	INTENSIVE RESPIRATORY CARE	52	BF 110	INTRODUCTION TO FINANCE	61
AR 400	RESPIRATORY THERAPY 3	52	BF 111	PRINCIPLES OF BANKING	61
			BF 310	MONEY AND BANKING	61
			BF 312	CREDIT MANAGEMENT	61

Number	Title	Page	Number	Title	Page
BF 313	PERSONAL FINANCIAL PLANNING	61	BZ 305	WORD PROCESSING TRAINING	75
BF 314	TRUST FUNDS AND SERVICES	61	BZ 405	WORD PROCESSING OFFICE MANAGEMENT	75
BF 410	INVESTMENTS	61	BZ 454	MEDICAL MACHINE TRANSCRIPTION	76
BF 411	MANAGERIAL FINANCE	61			
BF 412	FINANCIAL STATEMENT ANALYSIS	61		ENGINEERING TECHNOLOGIES COURSES	
BF 413	LOAN FINANCING & ADMINISTRATION	61	EB 120	MEASURING PRINCIPLES 1	92
BF 414	BANK MANAGEMENT	62	EB 230	MEASURING PRINCIPLES 2	92
BH 241	BILINGUAL TYPING	69	EB 320	CALIBRATION & STANDARDIZATION	92, 116
BH 304	BILINGUAL MACHINE TRANSCRIPTION	70	EB 340	ELECTRONIC CIRCUITS	92
BH 306	TRANSLATION FOR BILINGUAL	70	EB 410	BIO-MED ELECTRONIC SYSTEMS	92
BH 402	IPM TRANSCRIPTION	70	EB 420	INSTRUMENTATION PROJECT	92, 117
BI 110	PRINCIPLES OF MARKETING	65	EB 430	CODES - LAWS AND SAFETY	92
BI 310	RETAILING	65	ED 230	INTRODUCTION TO PROGRAMMING	96
BI 311	ADVERTISING AND PROMOTION	65	ED 330	MACHINE & ASSEMBLY LANGUAGES	96
BI 313	CONSUMERISM	65	EO 350	DIGITAL ELECTRONICS LAB 1	96
BI 410	CONSUMER BEHAVIOR	65	ED 410	DIGITAL ELECTRONICS LAB 2	96
BI 411	SALES AND SALES MANAGEMENT	65	ED 420	MICROPROCESSOR THEORY	92, 96
BI 412	MERCHANDISING	65	ED 430	ADVANCED COMPUTER TOPICS	96
BI 413	FASHION COLOR DESIGN & ANALYSIS	65	EE 110	FUNDAMENTALS OF ELECTRICITY 311	98, 107
BI 414	FASHION COORDINATION	66	EE 120	ENGINEERING GRAPHICS 311	98
BK 110	PRINCIPLES OF MANAGEMENT	62	EE 210	A.C. FUNDAMENTALS	98
BK 310	PERSONNEL MANAGEMENT	62	EE 220	FUNDAMENTALS OF ELECTRONICS	98
BK 318	PRINCIPLES OF TRANSPORTATION 1	63	EE 310	A.C. & D.C. CONTROL	98
BK 410	LABOR RELATIONS	63	EE 320	INDUSTRIAL ELECTRONICS CIRCUITS	98
BK 411	PRODUCTION MANAGEMENT	63	EE 330	SEMICONDUCTORS & TRANSISTORS 1	99
BK 412	TECHNIQUES OF MANAGEMENT	63	EE 340	COMPUTER CONCEPTS & LOGIC CIRCUITS	99
BK 413	SUPERVISORY MANAGEMENT	63	EE 410	INDUSTRIAL ELECTRO-MECHANICAL SYSTEMS	117
BK 414	BUSINESS POLICIES	63	EE 420	FUNDAMENTALS OF INSTRUMENTATION	99
BK 415	PRODUCTION PLANNING & CONTROL	63	EE 430	SEMICONDUCTORS & TRANSISTORS 2	99
BK 416	WORK METHODS & DESIGN	63	EE 440	ELECTRO-MECHANICAL CIRCUIT DESIGN	99, 100
BK 417	PURCHASING	63	EE 490	FUNDAMENTALS OF POWER CIRCUITS	99
BK 418	PRINCIPLES OF TRANSPORTATION 2	63	EL 320	INTRODUCTION TO LASERS	120
BK 419	OFFICE MANAGEMENT & CONTROL	63	EL 330	GEOMETRICAL OPTICS	120
BK 420	SMALL BUSINESS MANAGEMENT	63	EL 410	LASER PROJECTS	120
BL 301	LEGAL TYPEWRITING	73	EL 420	WAVE OPTICS	120
BL 303	LEGAL OFFICE PRACTICE	73	EL 430	LASER ELECTRO-OPTICS COMPONENTS	121
BL 402	LEGAL DICTATION & TRANSCRIPTION	73	EM 110	ELECTRO-MECHANICAL SYSTEMS	100
BM 301	MEDICAL SECRETARIAL TYPING	73	EM 210	CONTROL SYSTEM THEORY	100
BM 302	MEDICAL SHORTHAND	73	EM 340	SYSTEMS EVALUATION 1	100
BM 303	MEDICAL OFFICE PRACTICE 1	74	EM 410	INDUSTRIAL ELECTRO-MECHANICAL SYSTEMS	100
BM 402	MEDICAL DICTATION & TRANSCRIPTION	74	EM 440	SYSTEMS EVALUATION 2	100
BM 403	MEDICAL OFFICE PRACTICE 2	74	ET 110	BASIC ELECTRONICS 1	92
BO 103	CLERICAL OFFICE PROCEDURES	74	ET 115	ELECTRONICS LAB 1	93
BO 105	WORD PROCESSING EDITING	74	ET 120	GRAPHICS FOR ELECTRONIC TECHNOLOGY	103
BO 113	RECORDS MANAGEMENT 1	74	ET 210	BASIC ELECTRONICS 2	117
BO 123	RECORDS MANAGEMENT 2	74	ET 215	ELECTRONICS LAB 2	93
BO 204	INTRO. TO MACHINE TRANSCRIPTION	74	ET 220	SEMICONDUCTOR CIRCUITS 1	93
BP 101	COLLEGE BOOKKEEPING 1	60	ET 310	PULSE & DIGITAL CIRCUITS	93
BP 102	MEDICAL ACCOUNTING	74	ET 310	SEMICONDUCTOR CIRCUITS 2	103
BP 103	MEDICAL ACCOUNTING	60	ET 320	COMMUNICATIONS SYSTEMS 1	102
BP 105	MEDICAL OFFICE ACCOUNTING AND MANAGEMENT	60	ET 330	PULSE & DIGITAL CIRCUITS	104
BP 110	PRINCIPLES OF REAL ESTATE	63	ET 340	COMPUTER CONCEPTS & LOGIC CIRCUITS	117
BP 111	PRINCIPLES OF INSURANCE	63	ET 350	ELECTRONICS LAB 3	93, 104
BP 112	SMALL BUSINESS MARKETING	66	ET 420	COMMUNICATIONS SYSTEMS 2	104
BP 202	COLLEGE BOOKKEEPING 2	61	ET 430	DIGITAL COMPUTER SYSTEMS	104
BP 305	WORD PROCESSING SKILLS	74	ET 440	INTEGRATED ELECTRONICS	104
BP 311	MEDICAL LAW & ETHICS	62, 75	ET 450	ELECTRONICS LAB 4	104
BP 312	MEDICAL LAW FOR HEALTH PERSONNEL	62	EW 310	ELECTRONIC CIRCUITRY	101
BP 321	PROPERTY INSURANCE	64	EW 320	ELECTRONIC TROUBLESHOOTING 1	101
BP 322	CASUALTY INSURANCE	64	EW 330	ELECTRONIC INSTRUMENTATION	101
BP 323	LIFE, ACCIDENT & HEALTH INSURANCE	64	EW 420	ELECTRONIC TROUBLESHOOTING 2	101
BP 324	GROUP & SOCIAL INSURANCE	64	EW 430	SPECIAL TOPICS IN TROUBLE SHOOTING	101
BP 331	RESIDENTIAL APPRAISAL	64	EW 440	ELECTRONIC LICENSES	101
BP 332	COMMERCIAL & INDUSTRIAL APPRAISAL	64			
BP 333	REAL ESTATE INVESTMENTS & FINANCING	64	FA 110	METAL MACHINING 1	88
BP 334	REAL ESTATE MANAGEMENT	64	FA 130	BLUE PRINT READING	117
BP 341	SMALL BUSINESS PERSONNEL MANAGEMENT	64	FA 130	MACHINE TOOL TECHNIQUES	87, 107
BP 342	SMALL BUSINESS PRACTICUM	64	FA 210	METAL MACHINING 2	88
BP 343	SMALL BUSINESS SEMINAR	64	FA 310	METAL MACHINING 3	88
BP 351	PRINCIPLES & DEVELOPMENT OF TOURISM 1	65	FA 320	WORK SIMPLIFICATION	88
BP 352	PRINCIPLES & DEVELOPMENT OF TOURISM 2	65	FA 330	INDUSTRIAL MATERIALS	88
BP 353	TRAVEL AGENCY OPERATION	65	FA 410	METAL MACHINING 4	88
BX 316	COLLECTIVE BARGAINING IN THE PUBLIC SECTOR	65	FA 420	SPECIALIZED MACHINERY	88
BZ 101	TYPEWRITING 1	75	FB 110	PRODUCTION PROCESSES	89
BZ 102	SHORTHAND 1	75	FB 120	ENGINEERING GRAPHICS 371	97, 100
BZ 111	TYPING LAB 1	70	FB 220	MECHANISMS COURSE	89
BZ 112	SKILL BUILDING	75	FB 320	STRENGTH OF MATERIALS	89, 122
BZ 201	TYPEWRITING 2	75	FB 330	INDUSTRIAL MATERIALS	123
BZ 202	SHORTHAND 2	75	FB 410	PRODUCTION CONTROL	89
BZ 211	TYPING LAB 2	70	FB 420	FLUID POWER	117, 123
BZ 240	BUSINESS CALCULATING MACHINES	75	FB 430	ENGINEERING ECONOMY	123
BZ 251	MEDICAL TYPEWRITING	75	FB 440	MACHINE SHOP ESTIMATION	89, 123
BZ 302	SHORTHAND 3	75	FB 450	PROJECT DESIGN LAB	123
BZ 304	MACHINE TRANSCRIPTION	75	FD 110	MACHINE DESIGN 1	122
			FD 210	MACHINE DESIGN 2	122

Number	Title	Page
FD 410	MACHINE DESIGN 4	122
FE 310	MACHINE DESIGN 3	122
GA 110	GRAPHIC ARTS PROCESSES 1	111
GA 120	TYPOGRAPHY & COPY PREPARATION	111
GA 210	GRAPHIC ARTS PROCESSES 2	111
GA 220	LAYOUT & COPY PREPARATION	111
GA 230	ALPHABET KEYBOARD MASTERY	112
GA 340	PRODUCTION TECHNIQUES 1	112
GA 350	GRAPHIC DESIGN	112
GA 360	OFFSET PRESSWORK 1	112
GA 370	PRINTING MANAGEMENT	112
GA 380	CHEMISTRY OF LITHOGRAPHY 1	112
GA 410	CHEMISTRY OF LITHOGRAPHY 2	112
GA 420	OFFSET STRIPPING & PLATE MAKING	112
GA 430	PROCESS PHOTOGRAPHY	112
GA 450	PRODUCTION TECHNIQUES 2	112
GA 460	GRAPHIC DESIGN/PUB AND PACK	112
GA 470	OFFSET PRESSWORK 2	112
GA 480	PRINTING PRODUCTION MANAGEMENT	112
GC 110	CONSTRUCTION MATERIALS	94
GC 120	ARCHITECTURAL DESIGN & SPECIFICATIONS	94
GC 130	CONSTRUCTION METHODS & EQUIPMENT	95
GC 210	STATICS	95
GC 220	CONSTRUCTION ESTIMATING	95
GC 305	SURVEYING 721	119
GC 310	SURVEYING 1	95
GC 320	SOILS & FOUNDATIONS	95
GC 330	STRUCTURES 1	95
GC 410	REINFORCED CONCRETE ANALYSIS	95
GC 420	CONSTRUCTION MANAGEMENT	95
GC 430	TRANSPORTATION 1	95
GC 450	MATERIALS TESTING LAB	95
GD 110	PROGRAMMED ENG. GRAPHICS (GD 110-240)	87, 97, 144
GD 260	GRAPHICS DESIGN LAB	97
GL 120	PRINCIPLES OF HORTICULTURE	118
GL 210	PRESENTATION TECHNIQUES	118
GL 220	TURF MANAGEMENT	118
GL 320	ARBORICULTURE	118
GL 330	LANDSCAPE DESIGN 1	118
GL 350	LANDSCAPE OPERATIONS (PLANTING)	118
GL 410	PLANT PROPAGATION	118
GL 420	LANDSCAPE DESIGN 2	119
GL 430	EARTH FORMS & STRUCTURES	119
GT 110	FUNDAMENTALS IN TV WRITING	125
GT 120	VIDEO TECHNIQUES	125
GT 130	VIDEO PRODUCTION	125
GT 140	COMMUNICATION IN TODAY'S WORLD	125
GT 210	ADVANCED TV WRITING	125
GT 220	TV PRODUCING AND DIRECTING	125
GT 230	SPEAKING ON TV	125
GT 240	ANALYSIS OF COMMERCIAL & PUBLIC TV	125
GT 310	INSTRUCTIONAL TV TECHNIQUES	126
GT 320	JOURNALISM	126
GT 330	TV PRODUCTION PRACTICUM	126
GT 340	TV HONORS	126
GT 410	INSTRUCTIONAL TV PRODUCTION	126
GT 420	ADVANCED TV JOURNALISM	126
GT 430	ADVANCED TV PRODUCTION	126
GT 440	CABLE TELEVISION	126
GT 450	TV HONORS	126
HE 110	ENVIRONMENTAL STUDIES	105
HE 120	PROCESS PROBLEMS 1	105
HE 210	TREATMENT PLANT UNIT OPERATIONS 1	105
HE 220	BASIC INSTRUMENTATION	105
HE 226	INTRODUCTION TO CHEMICAL ENGINEERING	144
HE 310	WATER SAMPLE, ANALYSIS & CONTROL PROC.	105
HE 32	INDUSTRIAL HEALTH & SAFETY	105
HE 330	TREATMENT PLANT OPERATIONS 2	105
HE 410	WASTEWATER SAMPLE & PROCESS	105
HE 420	STEMS OPERATION & MAINTENANCE	107
HE 430	2 SAMPLE, ANALYSIS & CONTROL PROC.	106
HP 110	LOGY OF CONTROLS	113
HP 115	INSTRUMENTATION	107
HP 120	MECHANICAL SKILLS & PROCEDURES 1	113
HP 130	ENGINEERING GRAPHICS 331	113
HP 210	HYDRONIC LAYOUTS & CONSTRUCTION	113
HP 220	COMBUSTION CONTROL CIRCUITS	113
HP 230	MECHANICAL SKILLS & PROCEDURES 2	113
HP 240	PRINCIPLES OF REFRIGERATION	114
HP 310	COMMERCIAL PROGRAMMING CONTROLS	114
HP 320	HEATING SYSTEM DESIGN	114
HP 330	POWER PLANT OPERATION 1	114
HP 340	FUNDAMENTALS OF AIR CONDITIONING	114
HP 410	ADVANCED HEATING SYSTEM DESIGN	114

Number	Title	Page
HP 420	INDUSTRIAL CONTROL APPLICATIONS	114
HP 430	POWER PLANT OPERATION 2	114
HP 440	AIR CONDITIONING LABORATORY	114
HS 210	INTRODUCTION TO ALTERNATIVE ENERGY SYSTEMS	115
HS 310	SOLAR ENERGY 1	115
HS 430	SOLAR ENERGY 2	115
IA 110	GASLINE ENGINE SYSTEMS	90
IA 120	DRIVE LINE	90
IA 210	GASLINE ENGINE SERVICE	90
IA 220	AUTOMATIC TRANSMISSIONS	90
IA 310	FUEL & ELECTRIC SYSTEMS	90
IA 320	BRAKES	91
IA 410	STEERING & FRONT SUSPENSION	91
IA 420	ENGINE DIAGNOSIS & TUNE-UP	91
IT 310	CONTROL PRINCIPLES 1	116
IT 410	INSTRUMENT REPAIR AND TROUBLE SHOOTING	116
JF 110	INTRODUCTION TO FIRE PROTECTION	109
JF 120	FUNDAMENTALS OF FIRE PREVENTION	109
JF 210	BUILDING CONSTRUCTION	109
JF 220	ORGANIZATION & MANAGEMENT OF FIRE DEPT.	109
JF 310	FIRE HYDRAULICS & EQUIPMENT	109
JF 320	FIRE FIGHTING TACTICS & STRATEGY	109
JF 330	FIRE PROTECTION SYSTEMS	109
JF 410	HAZARDOUS MATERIALS	109
JF 420	FIRE CAUSES & DETECTION (ARSDN 1)	110
JF 430	ADVANCED PROTECTION SYSTEMS	110
JF 490	LEGAL ASPECTS OF FIRE PROTECTION	110
JF 493	FIRE CODES AND ORDINANCES	110
JF 494	PUBLIC, LABOR & HUMAN RELATIONS	110
JF 495	SPECIAL OCCUPANCY FIRE SYSTEM	110
JF 498	ARSDN 2	110
JD 110	INTRODUCTION TO INDUSTRIAL SAFETY	124
JO 210	OCCUPATIONAL SAFETY & HEALTH 1	124
JO 310	OCCUPATIONAL SAFETY & HEALTH 2	124
JO 420	OCCUPATIONAL SAFETY & HEALTH 3	124
HUMANITIES COURSES		
LA 140	ART HISTORY: PREHISTORIC TO GOTHIC	133
LA 142	PAINTING 1	133
LA 143	WOODBLOCK PRINTING 1	133
LA 144	POTTERY 1	133
LA 146	BASIC DESIGN	133
LA 147	BASIC DRAWING	133
LA 148	EARLY CHILDHOOD ART EDUCATION	133
LA 149	DRAWING COMPOSITION	133
LA 240	ART HISTORY: PREHISTORIC AND BAROQUE	133
LA 242	PAINTING 2	133
LA 243	WOODBLOCK PRINTING 2	134
LA 244	POTTERY 2	134
LA 344	BASIC SCULPTURE	134
LA 411	DIRECTED STUDY IN ART 1	134
LC 100	INTRO. TO EARLY CHILDHOOD EDUCATION	79
LC 110	CHILD GROWTH AND DEVELOPMENT	79
LC 120	FIELD STUDY 1	80
LC 200	CURRICULUM FOR OPEN EDUCATION 1	79
LC 210	THEORIES OF LEARNING & PERSONALITY DEV.	79
LC 220	FIELD STUDY 2	80
LC 300	CURRICULUM FOR OPEN EDUCATION 2	80
LC 310	SURVEY OF CURRENT EARLY LEARNING PROGRAMS	80
LC 315	OBSERVATION & RECORD. OF CHILD BEHAV. SEMINAR	80
LC 320	OBSERVATION & RECORDING FIELD STUDY	80
LC 400	SUPERVISED STUDENT PRACTICUM	80
LC 420	SEMINAR AND CRITIQUE	80
LC 450	CHILD HEALTH, NUTRITION & SAFETY	80
LD 079	BASIC STUDY SKILLS IN SPANISH	137
LD 080	ENGLISH AS A SECOND LANGUAGE 1	135
LD 083	ENGLISH AS A SECOND LANGUAGE 2	135
LD 086	ENGLISH AS A SECOND LANGUAGE 3	136
LD 090	COMMUNICATION SKILLS 1	136
LD 091	READING MODULE 1	136
LD 092	READING MODULE 2	136
LD 105	READING MODULE 3	136
LD 404	A SURVEY OF BLACK AMERICAN LITERATURE 2	136
LE 100	ENGLISH COMPOSITION 1	134
LE 124	ELEMENTARY FRENCH 1	136
LE 200	ENGLISH COMPOSITION 2: INTRO. TO LITERATURE	134
LE 201	BUSINESS ENGLISH	134
LE 202	TECHNICAL REPORT WRITING	134
LE 203	FUNDAMENTALS OF SPEECH	134
LE 224	ELEMENTARY FRENCH 2	136
LE 300	WORLD LITERATURE 1	134
LE 301	ENGLISH LITERATURE 1	134
LE 302	AMERICAN LITERATURE 1	134
LE 304	A SURVEY OF BLACK AMERICAN LITERATURE	135
LE 305	CHILDREN'S LITERATURE	135
LE 306	IRISH LITERATURE	135
LE 307	THE BIBLE AS LITERATURE	135

Number	Title	Page	Number	Title	Page
LE 308	WOMEN IN LITERATURE	135	ENGINEERING COURSES		
LE 310	COLLEGE THEATER WORKSHOP	135	ME 100	SPECIAL PROJECTS IN ENGINEERING 1	143
LE 324	INTERMEDIATE FRENCH 1	136	ME 101	SPECIAL PROJECTS IN ENGINEERING TECH 1	143
LE 343	MODERN POETRY	135	ME 102	SPECIAL PROJECTS IN ENGINEERING TECH 2	143
LE 400	WORLD LITERATURE 2	135	ME 103	INTRODUCTION TO ENGINEERING 21	143
LE 401	ENGLISH LITERATURE 2	135	ME 104	INTRO. TO ENG. 22: COMPUTER PROGRAMMING	143
LE 402	AMERICAN LITERATURE 2	135	ME 105	SENIOR ENGINEERING SEMINAR	143
LE 411	DIRECTED STUDY IN LITERATURE	135	ME 200	SPECIAL PROJECTS 1 ENGINEERING	143
LE 412	DIRECTED STUDY IN DRAMA	135	ME 204	FORTRAN FOR TECHNICIANS	123
LE 413	DIRECTED STUDY IN SPEECH	135	ME 204	NUMERICAL ANALYSIS & COMPUTER METHODS	143
LE 421	DIRECTED STUDY IN FRENCH	136	ME 310	MECHANICS 1	143
LE 424	INTERMEDIATE FRENCH 2	136	ME 320	SYSTEMS ANALYSIS 1	143
LF 120	CULTURAL SPANISH	136	ME 322	INTRODUCTION TO DIGITAL SYSTEMS	143
LF 121	ELEMENTARY SPANISH 1	137	ME 330	INTRODUCTION TO MATERIAL SCIENCE	143
LF 221	ELEMENTARY SPANISH 2	137	ME 331	MATERIAL SCIENCE LAB	143
LF 321	INTERMEDIATE SPANISH 1	137	ME 335	MECHANICAL OF MATERIALS	144
LF 421	INTERMEDIATE SPANISH 2	137	ME 350	ENGINEERING THERMODYNAMICS 1	144
LL 100	CRIMINAL PROCEDURES 1	84	ME 360	FLUID POWER	144
LL 110	INTRODUCTION TO CRIMINAL JUSTICE	84	ME 410	MECHANICS 2	144
LL 200	CRIMINAL PROCEDURES 2	84	ME 420	SYSTEMS ANALYSIS 2	144
LL 230	CRIMINAL EVIDENCE	85	ME 421	ENGINEERING MEASUREMENT AND ANALYSIS	144
LL 300	CRIMINAL LAW 1	85	ME 450	ENGINEERING THERMODYNAMICS 2	144
LL 340	CRIMINAL INVESTIGATION	85	ME 460	HEAT TRANSFER	144
LL 400	CRIMINAL LAW 2	85	MATHEMATICS COURSES		
LL 411	JUVENILE PROCEDURES	85	MM 071	MATHEMATICS	148
LL 412	LAW ENFORCEMENT PHOTOGRAPHY	85	MM 072	MATHEMATICS	148
LL 413	PAROLE, PROBATION & REHABILITATION	85	MM 073	MATHEMATICS	148
LL 415	POLICE-COMMUNITY RELATIONS	85	MM 074	MATHEMATICS	148
LL 450	LAW ENFORCEMENT MANAGEMENT & PLANNING	85	MM 075	MATHEMATICS	148
LM 130	MUSIC	137	MM 076	MATHEMATICS	149
LM 133	INTRODUCTION TO PIANO AND THEORY	137	MM 081	MATHEMATICS	149
LM 134	MUSIC FOR EARLY CHILDHOOD EDUCATION	137	MM 082	MATHEMATICS	149
LM 233	INTERMEDIATE PIANO AND THEORY	137	MM 083	MATHEMATICS	149
LX 110	PHILOSOPHY	137	MM 084	MATHEMATICS	149
BIOLOGICAL SCIENCE COURSES			MM 085	MATHEMATICS	149
MB 018	GENERAL BOTANY	145	MM 086	MATHEMATICS	149
MB 090	BASIC SCIENCE 3	145	MM 087	MATHEMATICS	149
MB 100	NATURAL HISTORY	145	MM 091	MATHEMATICS	149
MB 101	BIOLOGY OF MAN	145	MM 092	MATHEMATICS	149
MB 102	PRINCIPLES OF BIOLOGY 1	145	MM 093	MATHEMATICS	149
MB 103	BIOLOGIA EN ESPANOL 1	145	MM 097	MATHEMATICS	149
MB 104	HUMAN BIOLOGY 1	145	MM 100	MATHEMATICS	149
MB 105	GENERAL ZOOLOGY	145	MM 101	MATHEMATICS	149
MB 106	GENERAL BIOLOGY 1	145	MM 102	MATHEMATICS	149
MB 107	INDEPENDENT BIOLOGY STUDY 1	145	MM 103	MATHEMATICS	149
MB 109	ENTOMOLOGY/DISEASE CONTROL	119	MM 104	MATHEMATICS	149
MB 113	MAN AND HIS ENVIRONMENT	145	MM 105	MATHEMATICS	149
MB 120	ENVIRONMENTAL MICROBIOLOGY	146	MM 106	MATHEMATICS	149
MB 121	MICROBIOLOGY	146	MM 107	MATHEMATICS	149
MB 125	MICROBIOLOGY FOR DENTAL ASSISTANTS	146	MM 108	MATHEMATICS	149
MB 131	HUMAN ANATOMY & PSYCHOLOGY OF MENTAL HEALTH	146	MM 109	MATHEMATICS	150
MB 132	ANATOMY & PHYSIOLOGY 1	146	MM 120	CONTEMPORARY MATHEMATICS 1	150
MB 133	ANATOMY & PHYSIOLOGY/MLT	146	MM 121	CONTEMPORARY MATHEMATICS 2	150
MB 134	BIOLOGICAL SYSTEMS FOR THE DENTAL ASST.	146	MM 122	FINITE MATHEMATICS. 1	150
MB 136	APPLIED PHYSIOLOGY	146	MM 130	BUSINESS MATHEMATICS	76
MB 140	BIOCHEMISTRY FOR HEALTH SCIENCES	146	MM 135	MATHEMATICS OF RADIOLOGY	150
MB 142	INTRODUCTORY NUTRITION	146	MM 137	INDEPENDENT STUDY OF MATHEMATICS	150
MB 202	PRINCIPLES OF BIOLOGY 2	146	MM 140	STATISTICS & QUALITY CONTROL	150
MB 203	BIOLOGIA EN ESPANOL 2	146	MM 142	STATISTICS 1	150
MB 204	HUMAN BIOLOGY 2	146	MM 143	BUSINESS STATISTICS 1	66
MB 206	GENERAL BIOLOGY 2	147	MM 150	PRE-CALCULUS 1	150
MB 207	INDEPENDENT BIOLOGY STUDY 2	147	MM 151	MATHEMATICS	150
MB 209	TREES IN THE LANDSCAPE	119	MM 152	MATHEMATICS	150
MB 231	HUMAN ANATOMY & PHY. FOR MENTAL HEALTH 2	147	MM 153	MATHEMATICS	150
MB 232	ANATOMY & PHYSIOLOGY 2	147	MM 154	MATHEMATICS	150
MB 309	SHRUBS IN THE LANDSCAPE	119	MM 222	FINITE MATHEMATICS 2	150
MB 320	HISTOLOGY	147	MM 231	ENGINEERING COMPUTATIONS	150
MB 350	EMBRYOLOGY	147	MM 237	INDEPENDENT STUDY OF MATHEMATICS	150
MB 360	GENETICS	147	MM 242	STATISTICS 2	150
CHEMISTRY COURSES			MM 243	BUSINESS STATISTICS 2	66
MC 100	CHEMISTRY 1	147	MM 250	PRE-CALCULUS 2	151
MC 101	GENERAL CHEMISTRY 101	147	MM 251	MATHEMATICS	151
MC 103	GENERAL CHEMISTRY 21	147	MM 252	MATHEMATICS	151
MC 107	FORENSIC SCIENCE	85	MM 253	MATHEMATICS	151
MC 111	GENERAL CHEMISTRY 21 & 22 (MC111 - MC118)	147	MM 254	MATHEMATICS	151
MC 140	SEMINARS IN APPLIED CHEMISTRY	148	MM 351	MATHEMATICS	151
MC 201	GENERAL CHEMISTRY 102	148	MM 352	MATHEMATICS	151
MC 203	GENERAL CHEMISTRY 22	148	MM 353	MATHEMATICS	151
MC 205	CHEMISTRY OF LITHOGRAPHY 2	148	MM 354	MATHEMATICS	151
MC 300	AUTOMOTIVE CHEMISTRY	148	MM 439	LINEAR ALGEBRA	151
MC 320	ORGANIC CHEMISTRY 1	148	MM 451	MATHEMATICS	151
MC 330	BIOCHEMISTRY	148	MM 452	MATHEMATICS	151
MC 350	INSTRUMENTAL ANALYSIS	148	MM 453	MATHEMATICS	151
MC 360	QUANTITATIVE ANALYSIS	148	MM 454	MATHEMATICS	151
MC 370	INDEPENDENT CHEMISTRY STUDY 1	148	PHYSICS COURSES		
MC 420	ORGANIC CHEMISTRY 2	148	MP 090	BASIC SCIENCE 1	152
MC 470	INDEPENDENT CHEMISTRY STUDY 2	148	MP 092	BASIC SCIENCE 2	152
			MP 103	INTRODUCTION TO ASTRONOMY 1	152

COURSE DESCRIPTION INDEX — ALPHABETICAL

Number	Title	Page
MP 119	PHYSICS 1	152
MP 120	PHYSICS 2	152
MP 130	PHYSICS 11	152
MP 132	PHYSICS 21	152
MP 141	NUCLEAR PHYSICS 1	43, 48
MP 145	RADIOLOGIC PHYSICS 1	43, 48, 50
MP 146	RADIATION PROTECTION	43, 48, 50, 153
MP 150	INDEPENDENT STUDY PHYSICS 1	153
MP 203	INTRODUCTION TO ASTRONOMY 2	152
MP 230	PHYSICS 12	152
MP 232	PHYSICS 22	152
MP 245	RADIOLOGIC PHYSICS 2	50, 153
MP 250	INDEPENDENT STUDY PHYSICS 2	153
MP 332	PHYSICS 23	153
MP 345	RADIOLOGIC PHYSICS 3	153

SOCIAL SCIENCES COURSES

ND 120	CAREER PLANNING & DEVELOPMENT	141
NE 100	PRINCIPLES OF ECONOMICS 1	139
NE 200	PRINCIPLES OF ECONOMICS 2	139
NE 300	CURRENT ECONOMIC PROBLEMS	139
NE 310	COMPARATIVE ECONOMIC SYSTEMS	139
NE 495	DIRECTED STUDY IN ECONOMICS	139
NH 100	HISTORY OF WESTERN CIVILIZATION	139
NH 110	SURVEY OF EARLY U.S. HISTORY	139
NH 200	HISTORY OF WESTERN CIVILIZATION 2	139
NH 210	SURVEY OF MODERN U.S. HISTORY	139
NH 495	DIRECTED STUDY IN HISTORY	139
NI 100	AMERICAN GOVERNMENT AND POLITICS	141
NI 200	EUROPEAN COMPARATIVE GOVERNMENTS	141
NI 495	DIRECTED STUDY IN POLITICAL SCIENCE	141
NP 100	GENERAL PSYCHOLOGY	140
NP 109	HUMAN RELATIONS AT WORK	140
NP 300	CHILD & DEVELOPMENTAL PSYCHOLOGY	140
NP 330	BASIC PRINCIPLES IN PSYCHOLOGY OF AGING	37
NP 400	PRINCIPLES OF NORMAL/ABNORMAL BEHAVIOR	140
NP 409	INTRO. TO INDUSTRIAL AND ORGANIZATIONAL PSY.	140
NP 460	INTRODUCTION TO BEHAVIOR ANALYSIS	37
NP 495	DIRECTED STUDY IN PSYCHOLOGY	140
NS 100	INTRODUCTION TO SOCIOLOGY	140
NS 110	INTRODUCTION TO ANTHROPOLOGY	140
NS 200	SOCIAL PROBLEMS	140
NS 250	SOCIOLOGY OF THE FAMILY	140
NS 300	SOCIOLOGY OF AGING	37
NS 485	DIRECTED STUDY IN ANTHROPOLOGY	140
NS 495	DIRECTED STUDY IN SOCIOLOGY	140

Number	Title	Page
LE 304	A SURVEY OF BLACK AMERICAN LITERATURE 1	135
LD 404	A SURVEY OF BLACK AMERICAN LITERATURE 2	136
EE 310	A.C. & D.C. CONTROL	98
EE 210	A.C. FUNDAMENTALS	98
BA 110	ACCOUNTING 1	59
BA 210	ACCOUNTING 2	59
BD 310	ADVANCE SYSTEMS	68
ED 450	ADVANCED COMPUTER TOPICS	96
BA 412	ADVANCED COST ACCOUNTING	60
HP 410	ADVANCED HEATING SYSTEM DESIGN	114
JF 430	ADVANCED PROTECTION SYSTEMS	110
GT 420	ADVANCED TV JOURNALISM	126
GT 430	ADVANCED TV PRODUCTION	126
GT 210	ADVANCED TV WRITING	125
BI 311	ADVERTISING AND PROMOTION	65
HP 440	AIR CONDITIONING LABORATORY	114
HE 430	AIR SAMPLE, ANALYSIS & CONTROL PROC.	106
GA 230	ALPHABET KEYBOARD MASTERY	112
NI 100	AMERICAN GOVERNMENT AND POLITICS	141
LE 302	AMERICAN LITERATURE 1	134
LE 402	AMERICAN LITERATURE 2	135
GT 240	ANALYSIS OF COMMERCIAL & PUBLIC TV	125
MB 132	ANATOMY & PHYSIOLOGY 1	146
MB 232	ANATOMY & PHYSIOLOGY 2	147
MB 133	ANATOMY & PHYSIOLOGY/MLT	146
AH 402	APPLIED DENTAL AUXILIARY SKILLS	34
MB 136	APPLIED PHYSIOLOGY	146
GL 320	ARBORICULTURE	118
GC 120	ARCHITECTURAL DESIGN & SPECIFICATIONS	94
JF 498	ARSON 2	110
LA 240	ART HISTORY: PREHISTORIC AND BAROQUE	133
LA 140	ART HISTORY: PREHISTORIC TO GOTHIC	133
BA 418	AUDITING	60
IA 220	AUTOMATIC TRANSMISSIONS	90
MC 300	AUTOMOTIVE CHEMISTRY	148
BD 305	BAL-BASIC ASSEMBLY LANGUAGE	68
BF 414	BANK MANAGEMENT	62
AC 200	BASIC DERMATOLOGY	30
LA 146	BASIC DESIGN	133
LA 147	BASIC DRAWING	133
ET 110	BASIC ELECTRONICS 1	92
ET 210	BASIC ELECTRONICS 2	117
HE 220	BASIC INSTRUMENTATION	105
NP 330	BASIC PRINCIPLES IN PSYCHOLOGY OF AGING	37
MP 090	BASIC SCIENCE 1	152
MP 092	BASIC SCIENCE 2	152
MB 090	BASIC SCIENCE 3	145
LA 344	BASIC SCULPTURE	134
LD 079	BASIC STUDY SKILLS IN SPANISH	137
AC 100	BEAUTY SALON MANAGEMENT	30
BH 304	BILINGUAL MACHINE TRANSCRIPTION	70
BH 241	BILINGUAL TYPING	69
EB 410	BIO-MED ELECTRONIC SYSTEMS	92
MC 330	BIOCHEMISTRY	148
MB 140	BIOCHEMISTRY FOR HEALTH SCIENCES	146
MB 103	BIOLOGIA EN ESPANOL 1	145
MB 203	BIOLOGIA EN ESPANOL 2	146
MR 134	BIOLOGICAL SYSTEMS FOR THE DENTAL ASST.	146
MB 101	BIOLOGY OF MAN	145
FA 130	BLUE PRINT READING	117
IA 320	BRAKES	91
JF 210	BUILDING CONSTRUCTION	109
BZ 240	BUSINESS CALCULATING MACHINES	75
LE 201	BUSINESS ENGLISH	134
BB 310	BUSINESS LAW 1	62
BB 410	BUSINESS LAW 2	62
MM 130	BUSINESS MATHEMATICS	76
BK 414	BUSINESS POLICIES	63
MM 143	BUSINESS STATISTICS 1	66
MM 243	BUSINESS STATISTICS 2	66
GT 440	CABLE TELEVISION	126
EB 320	CALIBRATION & STANDARDIZATION	92, 116
ND 120	CAREER PLANNING & DEVELOPMENT	141
BP 322	CASUALTY INSURANCE	64
MC 100	CHEMISTRY 1	147
GA 380	CHEMISTRY OF LITHOGRAPHY 1	112
GA 410	CHEMISTRY OF LITHOGRAPHY 2	112
NP 300	CHILD & DEVELOPMENTAL PSYCHOLOGY	140
LC 110	CHILD GROWTH AND DEVELOPMENT	79
LC 450	CHILD HEALTH, NUTRITION & SAFETY	80
LE 305	CHILDREN'S LITERATURE	135
BO 103	CLERICAL OFFICE PROCEDURES	74
AD 204	CLINICAL AFFILIATION	32
AL 301	CLINICAL CHEMISTRY	41

Number	Title	Page	Number	Title	Page
AL 402	CLINICAL LAB 2	41	EE 440	ELECTRO-MECHANICAL CIRCUIT DESIGN	99
AL 403	CLINICAL LAB PRACTICUM 1	41	EM 110	ELECTRO-MECHANICAL SYSTEMS	100
AL 404	CLINICAL LAB PRACTICUM 2	41	EW 310	ELECTRONIC CIRCUITRY	101
AH 101	CLINICAL PRACTICE 1	33	EB 340	ELECTRONIC CIRCUITS	92
AH 202	CLINICAL PRACTICE 2	34	EW 330	ELECTRONIC INSTRUMENTATION	101
AH 303	CLINICAL PRACTICE 3	34	EW 440	ELECTRONIC LICENSES	101
AH 401	CLINICAL PRACTICE 4	34	EW 320	ELECTRONIC TROUBLESHOOTING 1	101
AY 202	CLINICAL PRACTICUM 1	47	EW 420	ELECTRONIC TROUBLESHOOTING 2	101
AZ 202	CLINICAL PRACTICUM 1	42	ET 115	ELECTRONICS LAB 1	93
AY 203	CLINICAL PRACTICUM 2	47	ET 215	ELECTRONICS LAB 2	93
AZ 203	CLINICAL PRACTICUM 2	42	ET 350	ELECTRONICS LAB 3	93, 104
BD 302	COBAL 1	68	ET 450	ELECTRONICS LAB 4	104
BD 402	COBAL 2	68	LE 124	ELEMENTARY FRENCH 1	136
EB 430	CODES - LAWS AND SAFETY	92	LE 224	ELEMENTARY FRENCH 2	136
BX 316	COLLECTIVE BARGAINING IN THE PUBLIC SECTOR	65	LF 121	ELEMENTARY SPANISH 1	137
BP 101	COLLEGE BOOKKEEPING 1	60	LF 221	ELEMENTARY SPANISH 2	137
BP 202	COLLEGE BOOKKEEPING 2	61	MB 350	EMBRYOLOGY	147
LE 310	COLLEGE THEATER WORKSHOP	135	IA 420	ENGINE DIAGNOSIS & TUNE-UP	91
HP 220	COMBUSTION CONTROL CIRCUITS	113	MM 231	ENGINEERING COMPUTATIONS	150
BP 332	COMMERCIAL & INDUSTRIAL APPRAISAL	64	FB 430	ENGINEERING ECONOMY	123
HP 310	COMMERCIAL PROGRAMMING CONTROLS	114	EE 120	ENGINEERING GRAPHICS 311	98
GT 140	COMMUNICATION IN TODAY'S WORLD	125	HP 130	ENGINEERING GRAPHICS 331	113
LD 090	COMMUNICATION SKILLS 1	136	FB 120	ENGINEERING GRAPHICS 371	97, 100
ET 320	COMMUNICATIONS SYSTEMS 1	102	ME 421	ENGINEERING MEASUREMENT AND ANALYSIS	144
ET 420	COMMUNICATIONS SYSTEMS 2	104	ME 350	ENGINEERING THERMODYNAMICS 1	144
AH 400	COMMUNITY DENTAL HEALTH	34	ME 450	ENGINEERING THERMODYNAMICS 2	144
NE 310	COMPARATIVE ECONOMIC SYSTEMS	139	LD 080	ENGLISH AS A SECOND LANGUAGE 1	135
BO 101	COMPUTER CONCEPTS	67	LD 083	ENGLISH AS A SECOND LANGUAGE 2	135
ET 340	COMPUTER CONCEPTS & LOGIC CIRCUITS	99, 117	LD 086	ENGLISH AS A SECOND LANGUAGE 3	136
GC 220	CONSTRUCTION ESTIMATING	95	LE 100	ENGLISH COMPOSITION 1	134
GC 420	CONSTRUCTION MANAGEMENT	95	LE 200	ENGLISH COMPOSITION 2: INTRO. TO LITERATURE	134
GC 110	CONSTRUCTION MATERIALS	94	LE 301	ENGLISH LITERATURE 1	134
GC 130	CONSTRUCTION METHODS & EQUIPMENT	95	LE 401	ENGLISH LITERATURE 2	135
BI 410	CONSUMER BEHAVIOR	65	MB 109	ENTOMOLOGY/DISEASE CONTROL	119
BI 313	CONSUMERISM	65	MB 120	ENVIRONMENTAL MICROBIOLOGY	146
MM 120	CONTEMPORARY MATHEMATICS 1	150	HE 110	ENVIRONMENTAL STUDIES	105
MM 121	CONTEMPORARY MATHEMATICS 2	150	NI 200	EUROPEAN COMPARATIVE GOVERNMENTS	141
IT 310	CONTROL PRINCIPLES 1	116	BE 402	EXECUTIVE DICTATION & TRANSCRIPTION	73
EM 210	CONTROL SYSTEM THEORY	100	BE 301	EXECUTIVE TYPEWRITING	73
BA 311	COST ACCOUNTING	60			
BC 412	COURT REPORTING TECHNOLOGY	73	BI 413	FASHION COLOR DESIGN & ANALYSIS	65
BF 312	CREDIT MANAGEMENT	61	BI 414	FASHION COORDINATION	66
LL 230	CRIMINAL EVIDENCE	85	BA 413	FEDERAL INCOME TAX 2	60
LL 340	CRIMINAL INVESTIGATION	85	LC 120	FIELD STUDY 1	80
LL 300	CRIMINAL LAW 1	85	LC 220	FIELD STUDY 2	80
LL 400	CRIMINAL LAW 2	85	BF 412	FINANCIAL STATEMENT ANALYSIS	61
LL 100	CRIMINAL PROCEDURES 1	84	MM 122	FINITE MATHEMATICS 1	150
LL 200	CRIMINAL PROCEDURES 2	84	MM 222	FINITE MATHEMATICS 2	150
LF 120	CULTURAL SPANISH	136	JF 420	FIRE CAUSES & DETECTION (ARSON 1)	110
NE 300	CURRENT ECONOMIC PROBLEMS	139	JF 493	FIRE CODES AND ORDINANCES	110
LC 200	CURRICULUM FOR OPEN EDUCATION 1	79	JF 320	FIRE FIGHTING TACTICS & STRATEGY	109
LC 300	CURRICULUM FOR OPEN EDUCATION 2	80	JF 310	FIRE HYDRAULICS & EQUIPMENT	109
			JF 330	FIRE PROTECTION SYSTEMS	109
BD 210	D/P ACC. SYSTEMS & APPLICATIONS	68	ME 360	FLUID MECHANICS	144
BO 410	D/P SYSTEMS & PROGRAMMING PROJECT	68	FB 420	FLUID POWER	117, 123
AO 100	DENTAL ASSISTING TECHNIQUES 1	31	MC 107	FORENSIC SCIENCE	85
AO 200	DENTAL ASSISTING TECHNIQUES 2	31	ME 204	FORTTRAN FOR TECHNICIANS	123
AH 301	DENTAL MATERIALS 1	32, 34	BD 306	FORTTRAN FOR TECHNOLOGIES	95
AH 102	DENTAL RADIOLOGY 1	32, 33	BD 306	FORTTRAN IV	68
AD 203	DENTAL RADIOLOGY 2	32	IA 310	FUEL & ELECTRIC SYSTEMS	90
AD 202	DENTAL RECORDS	32	GT 110	FUNDAMENTALS IN TV WRITING	125
AD 101	DENTAL SCIENCES 1	31	HP 340	FUNDAMENTALS OF AIR CONDITIONING	114
AD 201	DENTAL SCIENCES 2	31	AC 102	FUNDAMENTALS OF APPLIED COSMETOLOGY 1	30
ET 430	DIGITAL COMPUTER SYSTEMS	104	AC 103	FUNDAMENTALS OF APPLIED COSMETOLOGY 2	30
ED 350	DIGITAL ELECTRONICS LAB 1	96	EE 110	FUNDAMENTALS OF ELECTRICITY 311	98, 107
ED 410	DIGITAL ELECTRONICS LAB 2	96	EE 220	FUNDAMENTALS OF ELECTRONICS	98
NS 485	DIRECTED STUDY IN ANTHROPOLOGY	140	JF 120	FUNDAMENTALS OF FIRE PREVENTION	109
LA 411	DIRECTED STUDY IN ART 1	134	EE 420	FUNDAMENTALS OF INSTRUMENTATION	99
LE 412	DIRECTED STUDY IN DRAMA	135	EE 490	FUNDAMENTALS OF POWER CIRCUITS	99
NE 495	DIRECTED STUDY IN ECONOMICS	139	LE 203	FUNDAMENTALS OF SPEECH	134
LE 421	DIRECTED STUDY IN FRENCH	136			
NH 495	DIRECTED STUDY IN HISTORY	139	IA 210	GASOLINE ENGINE SERVICE	90
LE 411	DIRECTED STUDY IN LITERATURE	135	IA 110	GASOLINE ENGINE SYSTEMS	90
NI 495	DIRECTED STUDY IN POLITICAL SCIENCE	141	MB 106	GENERAL BIOLOGY 1	145
NP 495	DIRECTED STUDY IN PSYCHOLOGY	140	MB 206	GENERAL BIOLOGY 2	147
NS 495	DIRECTED STUDY IN SOCIOLOGY	140	MB 018	GENERAL BOTANY	145
LE 413	DIRECTED STUDY IN SPEECH	135	MC 101	GENERAL CHEMISTRY 101	147
LA 149	DRAWING COMPOSITION	133	MC 201	GENERAL CHEMISTRY 102	148
IA 120	DRIVE LINE	90	MC 103	GENERAL CHEMISTRY 21	147
			MC 111	GENERAL CHEMISTRY 21 & 22 (MC111 - MC118)	147
AE 100	E.M.T. 1	35	MC 203	GENERAL CHEMISTRY 22	148
AE 200	E.M.T. 2	35	NP 100	GENERAL PSYCHOLOGY	140
AE 300	E.M.T. 3	35	MB 105	GENERAL ZOOLOGY	145
AE 400	E.M.T. 4	35			
LA 148	EARLY CHILDHOOD ART EDUCATION	133			
GL 430	EARTH FORMS & STRUCTURES	119			

Number	Title	Page	Number	Title	Page
MB 360	GENETICS	147	AX 102	INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2	50
EL 330	GEOMETRICAL OPTICS	120	NS 100	INTRODUCTION TO SOCIOLOGY	140
BA 417	GOVERNMENTAL & FUND ACCOUNTING	60	AL 100	INTRODUCTION TO THE CLINICAL LAB 1	41
GA 110	GRAPHIC ARTS PROCESSES 1	111	MB 142	INTRODUCTORY NUTRITION	146
GA 210	GRAPHIC ARTS PROCESSES 2	111	BF 410	INVESTMENTS	61
GA 350	GRAPHIC DESIGN	112	BH 402	IPM TRANSCRIPTION	70
GA 460	GRAPHIC DESIGN/PUB AND PACK	112	LE 306	IRISH LITERATURE	135
GD 260	GRAPHICS DESIGN LAB	97			
ET 120	GRAPHICS FOR ELECTRONIC TECHNOLOGY	103	GT 320	JOURNALISM	126
BP 324	GROUP & SOCIAL INSURANCE	64	LL 411	JUVENILE PROCEDURES	85
JF 410	HAZARDOUS MATERIALS	109	AP 200	KINESIOLOGY	46
AA 102	HEALTH SCIENCES AND LAW 35,39,40,41,46,52,53	53			
ME 460	HEAT TRANSFER	144	BK 410	LABOR RELATIONS	63
HP 320	HEATING SYSTEM DESIGN	114	GL 330	LANDSCAPE DESIGN 1	118
AL 300	HEMATOLOGY AND COAGULATION	41	GL 420	LANDSCAPE DESIGN 2	119
MB 320	HISTOLOGY	147	GL 350	LANDSCAPE OPERATIONS (PLANTING)	118
NH 100	HISTORY OF WESTERN CIVILIZATION	139	EL 430	LASER ELECTRO-OPTICS COMPONENTS	121
NH 200	HISTORY OF WESTERN CIVILIZATION 2	139	EL 410	LASER PROJECTS	120
MB 131	HUMAN ANATOMY & PHY. FOR MENTAL HEALTH 1	146	LL 450	LAW ENFORCEMENT MANAGEMENT & PLANNING	85
MB 231	HUMAN ANATOMY & PHY. FOR MENTAL HEALTH 2	147	LL 412	LAW ENFORCEMENT PHOTOGRAPHY	85
MB 104	HUMAN BIOLOGY 1	145	GA 220	LAYOUT & COPY PREPARATION	111
MB 204	HUMAN BIOLOGY 2	146	JF 490	LEGAL ASPECTS OF FIRE PROTECTION	110
NP 109	HUMAN RELATIONS AT WORK	140	BL 402	LEGAL DICTATION & TRANSCRIPTION	73
AM 100	HUMAN SERVICES 1	38	BL 303	LEGAL OFFICE PRACTICE	73
AM 200	HUMAN SERVICES 2	39	BL 301	LEGAL TYPEWRITING	73
AM 300	HUMAN SERVICES 3	39	BP 323	LIFE, ACCIDENT & HEALTH INSURANCE	64
AM 400	HUMAN SERVICES 4	39	MM 439	LINEAR ALGEBRA	151
AM 301	HUMAN SERVICES SEMINAR 1	39	BF 413	LOAN FINANCING & ADMINISTRATION	61
AM 401	HUMAN SERVICES SEMINAR 2	39			
HP 210	HYDRONIC LAYOUTS & CONSTRUCTION	113	ED 330	MACHINE & ASSEMBLY LANGUAGES	96
			FD 110	MACHINE DESIGN 1	122
AL 400	IMMUNOHEMATOLOGY	41	FD 210	MACHINE DESIGN 2	122
MB 107	INDEPENDENT BIOLOGY STUDY 1	145	FE 310	MACHINE DESIGN 3	122
MB 207	INDEPENDENT BIOLOGY STUDY 2	147	FD 410	MACHINE DESIGN 4	122
MC 370	INDEPENDENT CHEMISTRY STUDY 1	148	FB 440	MACHINE SHOP ESTIMATION	89, 123
MC 470	INDEPENDENT CHEMISTRY STUDY 2	148	BC 102	MACHINE SHORTHAND 1	72
MM 137	INDEPENDENT STUDY OF MATHEMATICS	150	BC 202	MACHINE SHORTHAND 2	73
MM 237	INDEPENDENT STUDY OF MATHEMATICS	150	BC 302	MACHINE SHORTHAND 3	73
MP 150	INDEPENDENT STUDY PHYSICS 1	153	FA 130	MACHINE TOOL TECHNIQUES	87, 107
MP 250	INDEPENDENT STUDY PHYSICS 2	153	BZ 304	MACHINE TRANSCRIPTION	75
HP 420	INDUSTRIAL CONTROL APPLICATIONS	114	MB 113	MAN AND HIS ENVIRONMENT	145
EE 410	INDUSTRIAL ELECTRO-MECHANICAL SYSTEMS 100, 117	117	BD 411	MANAGEMENT INFO. SYSTEMS	68
EE 320	INDUSTRIAL ELECTRONICS CIRCUITS	98	BA 312	MANAGERIAL ACCOUNTING	60
HE 320	INDUSTRIAL HEALTH & SAFETY	105	BF 411	MANAGERIAL FINANCE	61
FA 330	INDUSTRIAL MATERIALS	88, 123	ME 331	MATERIAL SCIENCE LAB	143
GT 410	INSTRUCTIONAL TV PRODUCTION	126	GC 450	MATERIALS TESTING LAB	95
GT 310	INSTRUCTIONAL TV TECHNIQUES	126	MM 083	MATHEMATICS	149
IT 410	INSTRUMENT REPAIR AND TROUBLE SHOOTING	116	MM 084	MATHEMATICS	149
MC 350	INSTRUMENTAL ANALYSIS	148	MM 085	MATHEMATICS	149
HP 115	INSTRUMENTATION	107	MM 086	MATHEMATICS	149
EB 420	INSTRUMENTATION PROJECT	92, 117	MM 071	MATHEMATICS	148
BB 411	INSURANCE LAW	62	MM 072	MATHEMATICS	148
ET 440	INTEGRATED ELECTRONICS	104	MM 073	MATHEMATICS	148
AR 302	INTENSIVE RESPIRATORY CARE	52	MM 074	MATHEMATICS	148
BA 310	INTERMEDIATE ACCOUNTING 1	60	MM 075	MATHEMATICS	148
BA 410	INTERMEDIATE ACCOUNTING 2	60	MM 076	MATHEMATICS	149
LE 324	INTERMEDIATE FRENCH 1	136	MM 081	MATHEMATICS	149
LE 424	INTERMEDIATE FRENCH 2	136	MM 082	MATHEMATICS	149
LM 233	INTERMEDIATE PIANO AND THEORY	137	MM 087	MATHEMATICS	149
LF 321	INTERMEDIATE SPANISH 1	137	MM 091	MATHEMATICS	149
LF 421	INTERMEDIATE SPANISH 2	137	MM 092	MATHEMATICS	149
MS 210	INTRODUCTION TO ALTERNATIVE ENERGY SYSTEMS	115	MM 093	MATHEMATICS	149
NS 110	INTRODUCTION TO ANTHROPOLOGY	140	MM 097	MATHEMATICS	149
MP 103	INTRODUCTION TO ASTRONOMY 1	152	MM 100	MATHEMATICS	149
MP 203	INTRODUCTION TO ASTRONOMY 2	152	MM 101	MATHEMATICS	149
NP 460	INTRODUCTION TO BEHAVIOR ANALYSIS	37	MM 102	MATHEMATICS	149
HE 226	INTRODUCTION TO CHEMICAL ENGINEERING	144	MM 103	MATHEMATICS	149
LL 110	INTRODUCTION TO CRIMINAL JUSTICE	84	MM 104	MATHEMATICS	149
ME 322	INTRODUCTION TO DIGITAL SYSTEMS	143	MM 105	MATHEMATICS	149
LC 100	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	79	MM 106	MATHEMATICS	149
ME 103	INTRODUCTION TO ENGINEERING 21	143	MM 107	MATHEMATICS	149
ME 104	INTRO. TO ENG. 22: COMPUTER PROGRAMMING	143	MM 108	MATHEMATICS	149
BA 313	INTRODUCTION TO FEDERAL INCOME TAXES	60	MM 109	MATHEMATICS	150
BF 110	INTRODUCTION TO FINANCE	61	MM 151	MATHEMATICS	150
JF 110	INTRODUCTION TO FIRE PROTECTION	109	MM 152	MATHEMATICS	150
AT 100	INTRODUCTION TO GERONTOLOGY	36	MM 153	MATHEMATICS	150
NP 409	INTRO. TO INDUSTRIAL & ORGANIZATIONAL PSY.	140	MM 154	MATHEMATICS	150
JO 110	INTRODUCTION TO INDUSTRIAL SAFETY	124	MM 251	MATHEMATICS	151
EL 320	INTRODUCTION TO LASERS	120	MM 252	MATHEMATICS	151
BO 204	INTRODUCTION TO MACHINE TRANSCRIPTION	74	MM 253	MATHEMATICS	151
ME 330	INTRODUCTION TO MATERIAL SCIENCE	143	MM 254	MATHEMATICS	151
AL 200	INTRODUCTION TO MEDICAL MICROBIOLOGY	41	MM 351	MATHEMATICS	151
LM 133	INTRODUCTION TO PIANO AND THEORY	137	MM 352	MATHEMATICS	151
ED 230	INTRODUCTION TO PROGRAMMING	96	MM 353	MATHEMATICS	151
AX 101	INTRODUCTION TO RADIOLOGIC TECHNOLOGY 1	50	MM 354	MATHEMATICS	151
			MM 451	MATHEMATICS	151
			MM 452	MATHEMATICS	151
			MM 453	MATHEMATICS	151

Number	Title	Page
MM 454	MATHEMATICS	151
AX 103	MATHEMATICS OF RADIOLOGY	50
MM 135	MATHEMATICS OF RADIOLOGY	150
EB 120	MEASURING PRINCIPLES 1	92
EB 230	MEASURING PRINCIPLES 2	92
HP 120	MECHANICAL SKILLS & PROCEDURES 1	113
HP 230	MECHANICAL SKILLS & PROCEDURES 2	113
ME 310	MECHANICS 1	143
ME 410	MECHANICS 2	144
ME 335	MECHANICS OF MATERIALS	144
FB 220	MECHANISMS COURSE	89
BP 102	MEDICAL ACCOUNTING	74
BP 103	MEDICAL ACCOUNTING	60
AA 100	MEDICAL ASSISTANT TECHNIQUES 1	40
AA 200	MEDICAL ASSISTANT TECHNIQUES 2	40
AA 301	MEDICAL ASSISTANT TECHNIQUES 3	40
AA 300	MEDICAL ASSISTANT TECHNIQUES 4	40
AA 400	MEDICAL ASSISTANT TECHNIQUES 5	40
AA 103	MEDICAL ASST. TECHNIQUES FOR SECRETARIES 1	72
AA 201	MEDICAL ASST. TECHNIQUES FOR SECRETARIES 2	72
BM 402	MEDICAL DICTATION & TRANSCRIPTION	74
BP 311	MEDICAL LAW & ETHICS	62, 75
BP 312	MEDICAL LAW FOR HEALTH PERSONNEL	62
AP 300	MEDICAL LECTURES	46
BZ 454	MEDICAL MACHINE TRANSCRIPTION	76
BP 105	MEDICAL OFFICE ACCOUNTING AND MANAGEMENT	60
BM 303	MEDICAL OFFICE PRACTICE 1	74
BM 403	MEDICAL OFFICE PRACTICE 2	74
BM 301	MEDICAL SECRETARIAL TYPING	73
BM 302	MEDICAL SHORTHAND	73
AX 100	MEDICAL TERMINOLOGY	50
BZ 251	MEDICAL TYPEWRITING	75
B1 412	MERCHANDISING	65
FA 110	METAL MACHINING 1	88
FA 210	METAL MACHINING 3	88
FA 310	METAL MACHINING 2	88
FA 410	METAL MACHINING 4	88
MB 121	MICROBIOLOGY	146
MB 125	MICROBIOLOGY FOR DENTAL ASSISTANTS	146
ED 420	MICROPROCESSOR THEORY	92, 96
AT 400	MINORITY AND ETHNIC ELDERLY	36
LE 343	MODERN POETRY	135
BF 310	MONEY AND BANKING	61
LM 130	MUSIC	137
LM 134	MUSIC FOR EARLY CHILDHOOD EDUCATION	137
MB 100	NATURAL HISTORY	145
AZ 100	NUCLEAR MEDICINE TECHNOLOGY 1	42
AZ 200	NUCLEAR MEDICINE TECHNOLOGY 2	42
AZ 300	NUCLEAR MEDICINE TECHNOLOGY 3	42
AZ 400	NUCLEAR MEDICINE TECHNOLOGY 4	42
MP 141	NUCLEAR PHYSICS 1	43, 48
ME 204	NUMERICAL ANALYSIS & COMPUTER METHODS	143
AN 100	NURSING 1	44
AN 200	NURSING 2	44
AN 300	NURSING 3	44
AN 400	NURSING 4	44
AN 401	NURSING 5	44
AN 200	NUTRITION	34
LC 315	OBSERVATION & RECORD. OF CHILD BEHAV. SEMINAR	80
LC 320	OBSERVATION & RECORDING FIELD STUDY	80
JO 210	OCCUPATIONAL SAFETY & HEALTH 1	124
JO 310	OCCUPATIONAL SAFETY & HEALTH 2	124
JO 420	OCCUPATIONAL SAFETY & HEALTH 3	124
BK 419	OFFICE MANAGEMENT & CONTROL	63
GA 360	OFFSET PRESSWORK 1	112
GA 470	OFFSET PRESSWORK 2	112
GA 420	OFFSET STRIPPING & PLATE MAKING	112
AO 102	ORAL ANATOMY	31
AO 100	ORAL ANATOMY 1	33
AO 203	ORAL ANATOMY 2	34
AO 201	ORAL PATHOLOGY	34
MC 320	ORGANIC CHEMISTRY 1	148
MC 420	ORGANIC CHEMISTRY 2	148
JF 220	ORGANIZATION & MANAGEMENT OF FIRE DEPT.	109
AO 100	ORT 1	53
AO 200	ORT 2	53
AO 300-301	ORT 3	53
AO 401-402	ORT 4	53
LA 142	PAINTING 1	133
LA 242	PAINTING 2	133
AL 401	PARASITOLOGY	41
LL 413	PAROLE, PROBATION & REHABILITATION	85

Number	Title	Page
AH 300	PERIODONTOLOGY	34
BF 313	PERSONAL FINANCIAL PLANNING	61
BK 310	PERSONNEL MANAGEMENT	62
AH 302	PHARMACOLOGY	34
AO 302	PHARMACOLOGY/ORT	53
LX 110	PHILOSOPHY	137
AP 402	PHYSICAL THERAPIST ASSISTANT SEMINAR	46
AP 100	PHYSICAL THERAPIST ASSISTING 1	46
AP 201	PHYSICAL THERAPIST ASSISTING 2	46
AP 301	PHYSICAL THERAPIST ASSISTING 3	46
MP 119	PHYSICS 1	152
MP 120	PHYSICS 2	152
MP 130	PHYSICS 11	152
MP 230	PHYSICS 12	152
MP 132	PHYSICS 21	152
MP 232	PHYSICS 22	152
MP 332	PHYSICS 23	153
AT 300	PLAN. AND DELIVERY OF CMTY. SERV. FOR ELDERLY	36
GL 410	PLANT PROPAGATION	118
LL 415	POLICE-COMMUNITY RELATIONS	85
LA 144	POTTERY 1	133
LA 244	POTTERY 2	134
HP 330	POWER PLANT OPERATION 1	114
HP 430	POWER PLANT OPERATION 2	114
AY 101	PRACTICUM	48
AY 201	PRACTICUM	48
AY 301	PRACTICUM	48
AY 401	PRACTICUM	48
AY 402	PRACTICUM	48
AY 403	PRACTICUM	48
AZ 101	PRACTICUM	43
AZ 201	PRACTICUM	43
AZ 301	PRACTICUM	43
AZ 401	PRACTICUM	43
AZ 402	PRACTICUM	43
AZ 403	PRACTICUM	43
MM 150	PRE-CALCULUS 1	150
MM 250	PRE-CALCULUS 2	151
GL 210	PRESENTATION TECHNIQUES	118
BP 351	PRINCIPLES & DEVELOPMENT OF TOURISM 1	65
BP 352	PRINCIPLES & DEVELOPMENT OF TOURISM 2	65
BF 111	PRINCIPLES OF BANKING	61
MB 102	PRINCIPLES OF BIOLOGY 1	145
MB 202	PRINCIPLES OF BIOLOGY 2	146
AC 101	PRINCIPLES OF COSMETOLOGY	30
NE 100	PRINCIPLES OF ECONOMICS 1	139
NE 200	PRINCIPLES OF ECONOMICS 2	139
GL 120	PRINCIPLES OF HORTICULTURE	118
BP 111	PRINCIPLES OF INSURANCE	63
BK 110	PRINCIPLES OF MANAGEMENT	62
BI 110	PRINCIPLES OF MARKETING	65
NP 400	PRINCIPLES OF NORMAL/ABNORMAL BEHAVIOR	140
BP 110	PRINCIPLES OF REAL ESTATE	63
HP 240	PRINCIPLES OF REFRIGERATION	114
BK 318	PRINCIPLES OF TRANSPORTATION 1	63
BK 418	PRINCIPLES OF TRANSPORTATION 2	63
GA 370	PRINTING MANAGEMENT	112
GA 480	PRINTING PRODUCTION MANAGEMENT	112
GA 430	PROCESS PHOTOGRAPHY	112
HE 120	PROCESS PROBLEMS 1	105
FB 410	PRODUCTION CONTROL	89
BK 411	PRODUCTION MANAGEMENT	63
BK 415	PRODUCTION PLANNING & CONTROL	63
FB 110	PRODUCTION PROCESSES	89
GA 340	PRODUCTION TECHNIQUES 1	112
GA 450	PRODUCTION TECHNIQUES 2	112
GD 110	PROGRAMMED ENG. GRAPHICS (GO 110-240)	87, 97, 144
AA 101	PROGRAMMED MEDICAL TERMINOLOGY	40
BO 102	PROGRAMMING 1-R.P.G.	67
BO 202	PROGRAMMING 2-R.P.G.2	67
FB 450	PROJECT DESIGN LAB	123
BP 321	PROPERTY INSURANCE	64
JF 494	PUBLIC, LABOR & HUMAN RELATIONS	110
AR 403	PULMONARY FUNCTIONS TESTING	52
ET 310	PULSE & DIGITAL CIRCUITS	93, 104
BK 417	PURCHASING	63
MC 360	QUANTITATIVE ANALYSIS	148
MP 146	RADIATION PROTECTION	43, 48, 50, 153
AY 100	RADIATION THERAPY TECHNOLOGY 1	47
AY 200	RADIATION THERAPY TECHNOLOGY 2	47
AY 300	RADIATION THERAPY TECHNOLOGY 3	47
AY 400	RADIATION THERAPY TECHNOLOGY 4	48
MP 145	RADIOLOGIC PHYSICS 1	43, 48, 50

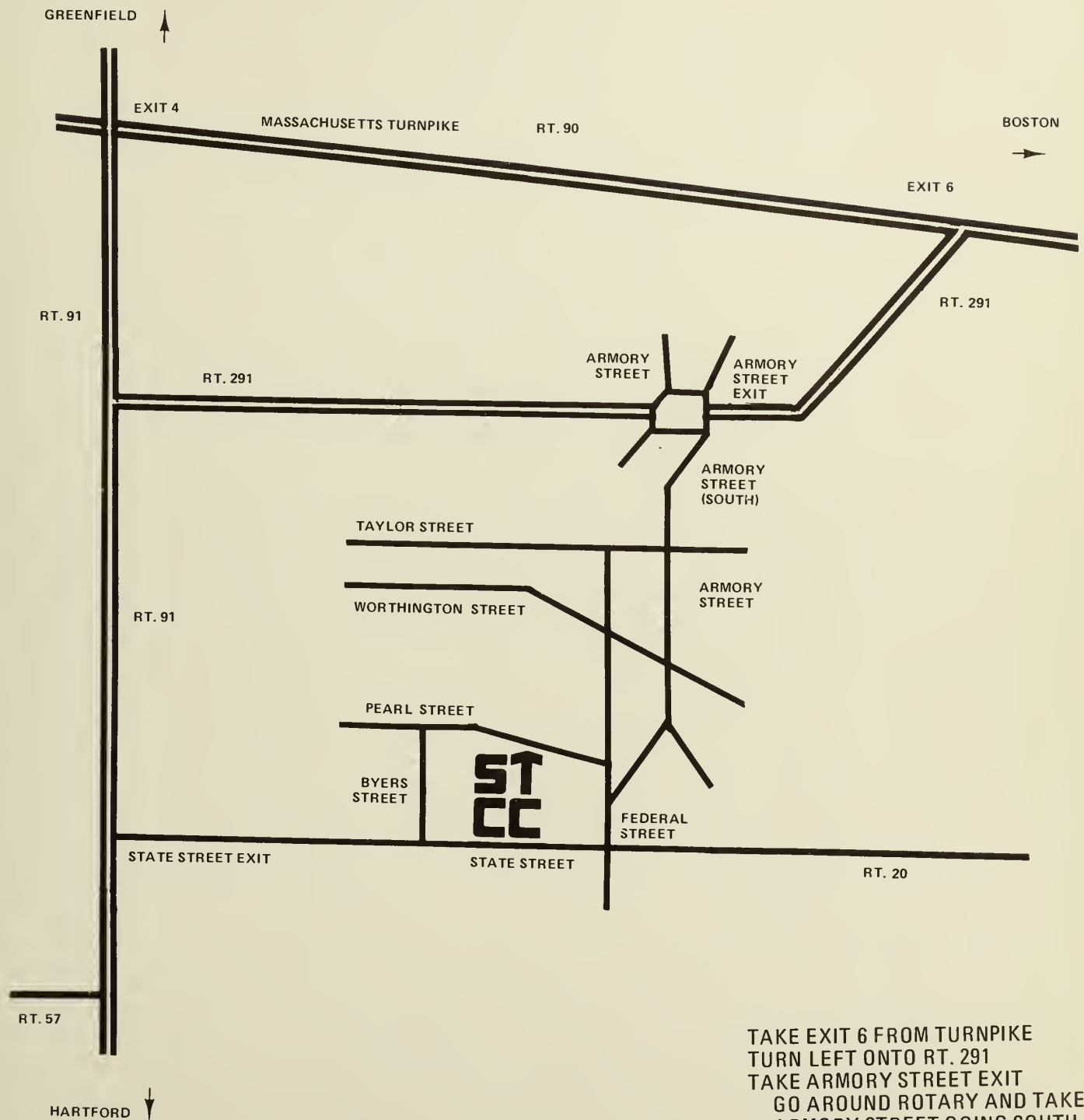
Number	Title	Page
MP 245	RADIOLOGIC PHYSICS 2	153
MP 345	RADIOLOGIC PHYSICS 3	153
AX 104	RADIOLOGIC TECHNOLOGY 1	50
AX 105	RADIOLOGIC TECHNOLOGY 2	50
AX 200	RADIOLOGIC TECHNOLOGY 3	50
AX 201-202	RADIOLOGIC TECHNOLOGY 4	50
AX 300	RADIOLOGIC TECHNOLOGY 5	50
AX 301	RADIOLOGIC TECHNOLOGY 6	50
AX 400	RADIOLOGIC TECHNOLOGY 7	50
AX 401	RADIOLOGIC TECHNOLOGY 8	50
LD 091	READING MODULE 1	136
LO 092	READING MODULE 2	136
LD 105	READING MODULE 3	136
BP 333	REAL ESTATE INVESTMENTS & FINANCING	64
BB 413	REAL ESTATE LAW	62
BP 334	REAL ESTATE MANAGEMENT	64
BO 113	RECORDS MANAGEMENT 1	74
BO 123	RECORDS MANAGEMENT 2	74
AT 401	REHABILITATIVE APPROACHES FOR THE ELDERLY	36
GC 410	REINFORCED CONCRETE ANALYSIS	95
BP 331	RESIDENTIAL APPRAISAL	64
AR 201	RESPIRATORY PHARMACOLOGY	52
AR 300	RESPIRATORY THER. APPLICATION & CLIN. SCI. 1	52
AR 402	RESPIRATORY THER. APPLICATION & CLIN. SCI. 2	52
AR 100	RESPIRATORY THERAPY 1	51
AR 301	RESPIRATORY THERAPY 2	52
AR 400	RESPIRATORY THERAPY 3	52
AR 401	RESPIRATORY THERAPY 4	52
AR 200	RESPIRATORY THERAPY PHYSICS	52
BI 310	RETAILING	65
AT 200	RETIREMENT AND FAMILY ADJUSTMENT	36
BI 411	SALES AND SALES MANAGEMENT	65
BE 303	SECRETARIAL PRACTICE 1	73
ET 220	SEMICONDUCTOR CIRCUITS 1	93
ET 310	SEMICONDUCTOR CIRCUITS 2	103
EE 330	SEMICONDUCTORS & TRANSISTORS 1	99
EE 430	SEMICONDUCTORS & TRANSISTORS 2	99
LC 420	SEMINAR AND CRITIQUE	80
AO 205	SEMINAR IN DENTAL ASSISTING	32
AO 400	SEMINAR/SURGICAL	53
MC 140	SEMINARS IN APPLIED CHEMISTRY	148
ME 105	SENIOR ENGINEERING SEMINAR	143
BZ 102	SHORTHAND 1	75
BZ 202	SHORTHAND 2	75
BZ 302	SHORTHAND 3	75
MB 309	SHRUBS IN THE LANDSCAPE	119
BZ 112	SKILL BUILDING	75
BA 111	SMALL BUSINESS ACCOUNTING & CONTROL	59
BB 412	SMALL BUSINESS LAW	62
BK 420	SMALL BUSINESS MANAGEMENT	63
BP 112	SMALL BUSINESS MARKETING	66
BP 341	SMALL BUSINESS PERSONNEL MANAGEMENT	64
BA 112	SMALL BUSINESS PLANNING, CONTROL & FINANCING	59
BP 342	SMALL BUSINESS PRACTICUM	64
BP 343	SMALL BUSINESS SEMINAR	64
NS 200	SOCIAL PROBLEMS	140
NS 300	SOCIOLOGY OF AGING	37
NS 250	SOCIOLOGY OF THE FAMILY	140
GC 320	SOILS & FOUNDATIONS	95
HS 310	SOLAR ENERGY 1	115
HS 430	SOLAR ENERGY 2	115
GT 230	SPEAKING ON TV	125
JF 495	SPECIAL OCCUPANCY FIRE SYSTEM	110
ME 100	SPECIAL PROJECTS IN ENGINEERING 1	143
ME 200	SPECIAL PROJECTS IN ENGINEERING 2	143
ME 101	SPECIAL PROJECTS IN ENGINEERING TECH 1	143
ME 102	SPECIAL PROJECTS IN ENGINEERING TECH 2	143
EW 430	SPECIAL TOPICS IN TROUBLE SHOOTING	101
FA 420	SPECIALIZED MACHINERY	88
GC 210	STATICS	95
MM 140	STATISTICS & QUALITY CONTROL	150
MM 142	STATISTICS 1	150
MM 242	STATISTICS 2	150
IA 410	STEERING & FRONT SUSPENSION	91
FB 320	STRENGTH OF MATERIALS	89, 122
GC 330	STRUCTURES 1	95
AP 400	SUPERVISED CLINICAL EXPERIENCE 1	46
AP 401	SUPERVISED CLINICAL EXPERIENCE 2	46
AC 201	SUPERVISED LAB PRACTICUM 1	30
AC 202	SUPERVISED LAB PRACTICUM 2	30
LC 400	SUPERVISED STUDENT PRACTICUM	80
BK 413	SUPERVISORY MANAGEMENT	63
LC 310	SURVEY OF CURRENT EARLY LEARNING PROGRAMS	80
NH 110	SURVEY OF EARLY U.S. HISTORY	139
NH 210	SURVEY OF MODERN U.S. HISTORY	139
GC 310	SURVEYING 1	95

Number	Title	Page
GC 305	SURVEYING 721	119
ME 320	SYSTEMS ANALYSIS 1	143
ME 420	SYSTEMS ANALYSIS 2	144
EM 340	SYSTEMS EVALUATION 1	100
EM 440	SYSTEMS EVALUATION 2	100
HE 420	SYSTEMS OPERATION & MAINTENANCE	107
LE 202	TECHNICAL REPORT WRITING	134
BK 412	TECHNIQUES OF MANAGEMENT	63
LE 307	THE BIBLE AS LITERATURE	135
LC 210	THEORIES OF LEARNING & PERSONALITY DEV.	79
HP 110	THEORY OF CONTROLS	113
BH 306	TRANSLATION FOR BILINGUAL	70
GC 430	TRANSPORTATION 1	95
BP 353	TRAVEL AGENCY OPERATION	65
HE 210	TREATMENT PLANT UNIT OPERATIONS 1	105
HE 330	TREATMENT PLANT UNIT OPERATIONS 2	105
MB 209	TREES IN THE LANDSCAPE	119
BF 314	TRUST FUNDS AND SERVICES	61
GL 220	TURF MANAGEMENT	118
GT 340	TV HONORS	126
GT 450	TV HONORS	126
GT 220	TV PRODUCING AND DIRECTING	125
GT 330	TV PRODUCTION PRACTICUM	126
BZ 101	TYPEWRITING 1	75
BZ 201	TYPEWRITING 2	75
BZ 111	TYPING LAB 1	70
BZ 211	TYPING LAB 2	70
GA 120	TYPOGRAPHY & COPY PREPARATION	111
GT 130	VIDEO PRODUCTION	125
GT 120	VIDEO TECHNIQUES	125
HE 410	WASTEWATER SAMPLE & PROCESS	105
HE 310	WATER SAMPLE, ANALYSIS & CONTROL PROC.	105
EL 420	WAVE OPTICS	120
LE 308	WOMEN IN LITERATURE	135
LA 143	WOODBLOCK PRINTING 1	133
LA 243	WOODBLOCK PRINTING 2	134
BO 105	WORD PROCESSING EDITING	74
BZ 405	WORD PROCESSING OFFICE MANAGEMENT	75
BP 305	WORD PROCESSING SKILLS	74
BZ 305	WORD PROCESSING TRAINING	75
BK 416	WORK METHODS & DESIGN	63
FA 320	WORK SIMPLIFICATION	88
LE 300	WORLD LITERATURE 1	134
LE 400	WORLD LITERATURE 2	135

NOTES

NOTES

DIRECTIONS TO STCC



TAKE EXIT 6 FROM TURNPIKE
 TURN LEFT ONTO RT. 291
 TAKE ARMORY STREET EXIT
 GO AROUND ROTARY AND TAKE
 ARMORY STREET GOING SOUTH
 STAY ON ARMORY STREET UNTIL
 YOU COME TO FEDERAL STREET
 CAMPUS SECURITY OFFICERS WILL
 DIRECT YOU TO APPROPRIATE
 PARKING AREA

Non-Profit
Organization
Permit 115
Springfield, Ma.

ST SPRINGFIELD
CC TECHNICAL
COMMUNITY
COLLEGE

ARMORY SQUARE, SPRINGFIELD, MASSACHUSETTS 01105